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OIL IN SEA ICE

by
E.L. Lewis

INSTITUTE OF OCEAN SCIENCES, PATRICIA BAY
Victoria, B.C.

For additional copies or further information, please write to:

Environment Canada
Institute of Ocean Sciences, Patricia Bay
512 - 1230 Government Street
Victoria, B.C.
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June 1976

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PREAMBLE

This report has been written for people with a background in a physical science or in engineering. Where specialist knowledge is required it is introduced in the text. The report itself and its conclusions are a mixture of fact, rational deduction and speculation, hopefully intelligent, and an attempt has been made to distinguish clearly between these various types of information.

The timing of industrial developments in Arctic Canada required a study of oil in sea ice by the end of 1975 and this urgency explains at least to some extent omissions in this report. An even more important factor is the nature of the subject itself. To know some things for certain we should have to conduct an experiment in oil spills which in itself would constitute a disaster. This, for example, is why the discussion of the incorporation of oil into pressure ridges lacks an experimental base. A few remaining points, such as the residence time of crude oil beneath multi-year ice, could be clarified by further controlled experiments, but it is probable that the main work to be done in future is on clean-up techniques rather than the basic physics of the situation.

One of the most difficult points has been to gauge the chemical and physical nature of the crude oil which might be spilt. Properties such as surface tension, which are of great importance in the prediction of oil film thicknesses, depend on small quantities of specific chemicals in the oil that may or may not be present in the output from a given well in a given oil field. It is possible that the oil from two blowouts 10 miles apart would form slicks at sea surface that would behave quite differently.

This report has been based upon the writings of Topham, Wadhams, and Walker of this Group, upon that of Dickins, Overall, and Brown of NORCOR Ltd. and upon that of Rosenegger of Imperial Oil in Calgary. All these works are available as Beaufort Sea Technical Reports and are listed below. In them will be found extensive lists of references to previous work by other authors. The last year has seen an enormous increase in our knowledge and understanding of oil in Arctic waters. Nevertheless many topics are still less than fully defined and some authors disagree or lay a different emphasis upon the importance of various factors in a given circumstance. No attempt has been made herein to reconcile these differences, the author has stated his own views based upon personal experience and a detailed study of the relevant literature and is thus entirely responsible for statements made in the text.

E.L. Lewis
Frozen Sea Research Group

January 23, 1976.

Beaufort Sea Project Technical Reports

#27 D. Dickins, J. Overall and R. Brown
The Interaction of Crude Oil with Arctic Sea Ice

#28 L.W. Rosenegger
Movement of Oil Under Sea Ice

#33 D.R. Topham
Hydrodynamics of an Oilwell Blowout

#35 E.R. Walker
Oil, Ice and Climate in the Beaufort Sea

#36 P. Wadhams
Sea Ice Morphology in the Beaufort Sea

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INTRODUCTION

Proposed industrial exploration in Canadian Arctic offshore waters made the rapid acquisition of environmental information concerning those waters essential. The most urgent need was to obtain data from the Beaufort Sea, north of the Mackenzie Delta, N.W.T., where oil companies are engaged in drilling exploratory wells from artificial islands and intend to move further offshore utilizing drill ships. Oil has already been discovered in the area and it is very probable that wells to be drilled in the near future will produce further discoveries. Although modern drilling techniques make a large scale leakage of oil into the environment unlikely, such a possibility must be considered as it has been suggested by some authors that the consequences of even a few major oil spills could be very serious. Recent newspaper articles have aired their prediction that oil from a major oil spill could contaminate the surface of the snow or ice covering a large part of the Beaufort Sea and that the increased absorption of radiation from the sun would materially affect the world's climate. Sea ice is the main "shock absorber" in the earth's climatic system and at its greatest extent covers approximately 11% of the earth's surface, thereby greatly reducing the exchange of heat between the ocean and the atmosphere. If this cover were to be removed much earlier in the year than was usual, so the argument went, ocean/atmosphere energy exchange should be significantly altered and the effects perceivable in local weather systems in all parts of the world.

At a less catastrophic level the biological effects of contamination of shoreline and feeding grounds of various mammals, birds and other creatures had to be assessed and this also required an understanding of the behaviour of crude oil in sea ice. Two primary questions arise - what is the behaviour of oil in stationary sea ice, for example, what area of contaminated ice might one expect to find per gallon of oil released, and secondly, where will the oil be transported by the movement of the ice after the initial spill and what will be the effect of collisions, fracturing, etc. between the moving floes? In order to appreciate the answers that have been found to some of these questions it is first necessary to describe the uncontaminated situation starting with the formation and structure of sea ice.

A typical salt content for deep sea water is $35°/_{oo}$ (the symbol $°/_{oo}$ is parts per thousand by weight) but the surface waters of the Arctic Ocean are usually much less salty than this due to dilution by runoff from the land, and from melting of the existing sea ice in situ. A change between $5°/_{oo}$ salt content at the surface and $28°/_{oo}$ salt content may easily occur in the topmost 10 meters of the ocean. In the absence of an ice cover, wind mixing of the surface waters tends to destroy this gradient but at the lower limit of this mixing, typically at a depth of about 25 meters there is an abrupt change in the salt content and therefore density of the water column. As the air temperature lowers in the fall, heat is gradually extracted from the sea until at some time the temperature at the sea surface reaches the freezing point for water of that salinity. If the water surface is undisturbed small disc shaped ice particles form and grow outwards along the surface in snow flake patterns and interlock. There is an axis about which a snowflake may be regarded as a spoked wheel, this is the "C" or optic axis of ice which in any crystal uniquely defines a specific direction in its molecular assembly. In general ice presents different physical properties along the "C" axis and

at right angles to it. Because of their shape these elementary flake like ice particles float with their "C" axis vertical and even in the presence of a wind the distribution of "C" axis disections for the individual crystals forming the ice cover at the sea surface has a maximum in the vertical. From molecular considerations a snowflake grows most easily along its "spokes", that is at right angles to the "C" axis and the minority of ice particles at the ocean surface that happen to have their "C" axis near horizontal tend to grow downwards more rapidly than adjacent crystals. This deprives the latter crystals of the water required for further growth and in a fully developed sea ice cover, the change from a large number of "C axis near vertical crystals" to a small number of "C axis near horizontal" crystals occurs in the first 10 cm. This is illustrated in figure 1 where the transition from the polycrystalline ice near the surface to the larger "columnar" crystals beneath is illustrated schematically.

The salinity of sea ice is far below that of the water mass from which it grew because the solubility of salt in the liquid and solid phases of water is quite different. The solubility of salt in ice is very small indeed and such salt that exists within the ice sheet does so in the form of brine inclusions which have a particular position with respect to the "C" axis of each individual crystal. The pattern of these inclusions within a single crystal is shown in figure 2. It is seen that they are in regularly spaced "basal" planes which are at right angles to the "C" axis and thus vertical in the columnar crystal region. Each brine inclusion forms part of a trail of such inclusions along the direction of ice growth. A typical dimension for such an inclusion is half a millimeter diameter measured perpendicular to the trail. As the ice cover thickens their position is moved in relation to the upper and lower surfaces of the ice sheet and the inclusion is cooled. Fractional freezing occurs within the inclusion and the salinity of the trapped brine increases to be in equilibrium with the temperature of the surrounding ice. This additional freezing reduces the volume of brine within unit volume of sea ice though the overall salinity of the sample will remain the same, unless brine drainage occurs.

As the sea ice sheet grows salt is being continually rejected at the ice/water interface both directly as each elementary crystal grows and by subsequent drainage downwards of dense brines from the interior of the sea ice sheet. This latter drainage is partially the result of cracking caused by the fractional freezing of brine packets as mentioned but also depends on characteristic crystallographic features of the ice sheet called brine drainage channels. These may be likened to a river complete with tributaries extending vertically upwards through the ice sheet from the ice/water interface to the transition region within 20 or 30 cm of the upper surface. In thick sea ice sheets brine drainage channels appear to be separated by 15-20 cm horizontally and at their exit to the underlying water have a diameter of the order of 1 cm. This is shown schematically in figure 3 which also illustrates the "skeletal layer". This is the region 2 or 3 cm thick immediately adjacent to the ice/water interface where the ice is still in the process of growth and some water still remains within a "skeleton" of ice. It may be visualized as a downward extension of the basal planes shown in figure 2 with water still existing between individual planes. Salt is rejected by the growing ice both from between these planes and also down brine drainage channels. These drainage features are most important in considering what happens to crude oil under a growing sea ice sheet.

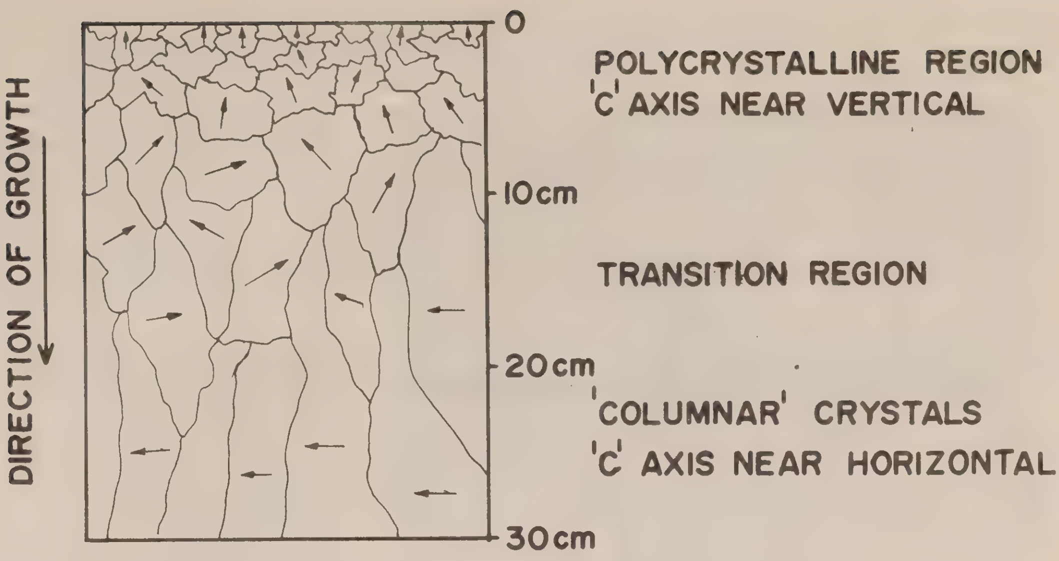
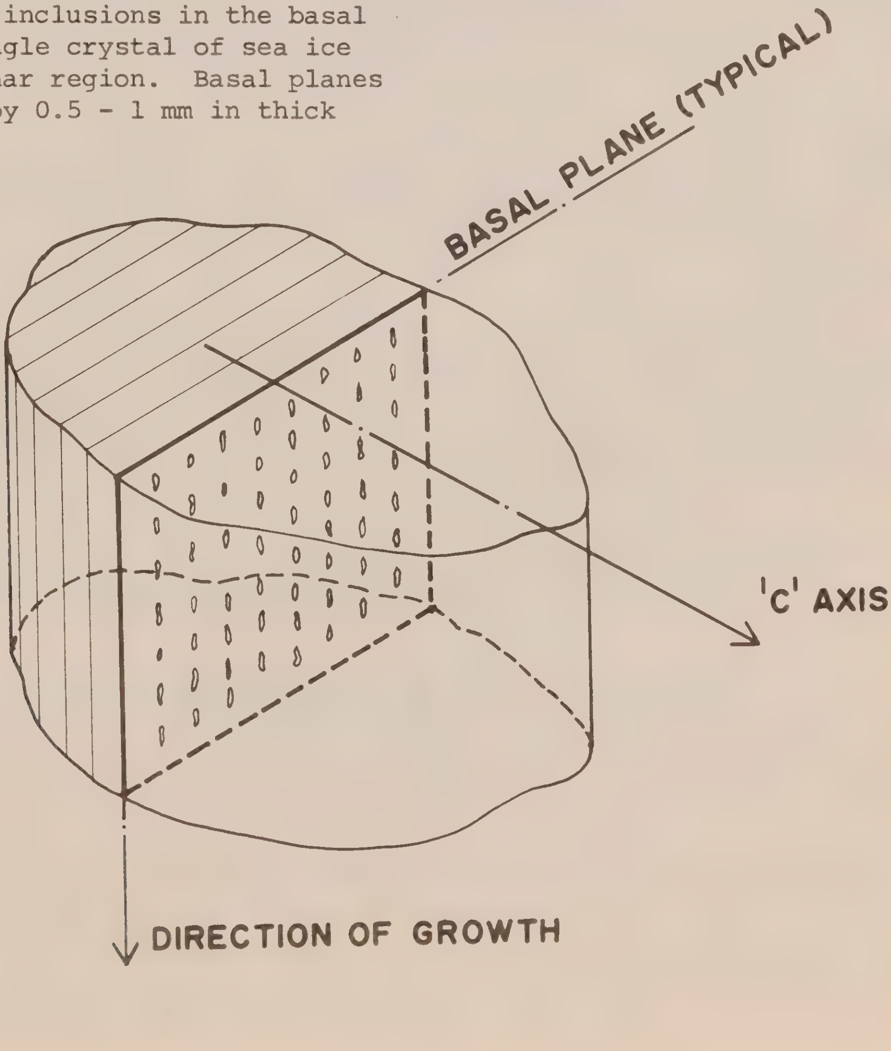


Fig. 1 Crystal structure of sea ice. The arrows represent the direction of the "C" axis in each crystal. See text for discussion.

Fig. 2. Brine inclusions in the basal planes of a single crystal of sea ice from the columnar region. Basal planes are separated by 0.5 - 1 mm in thick sea ice



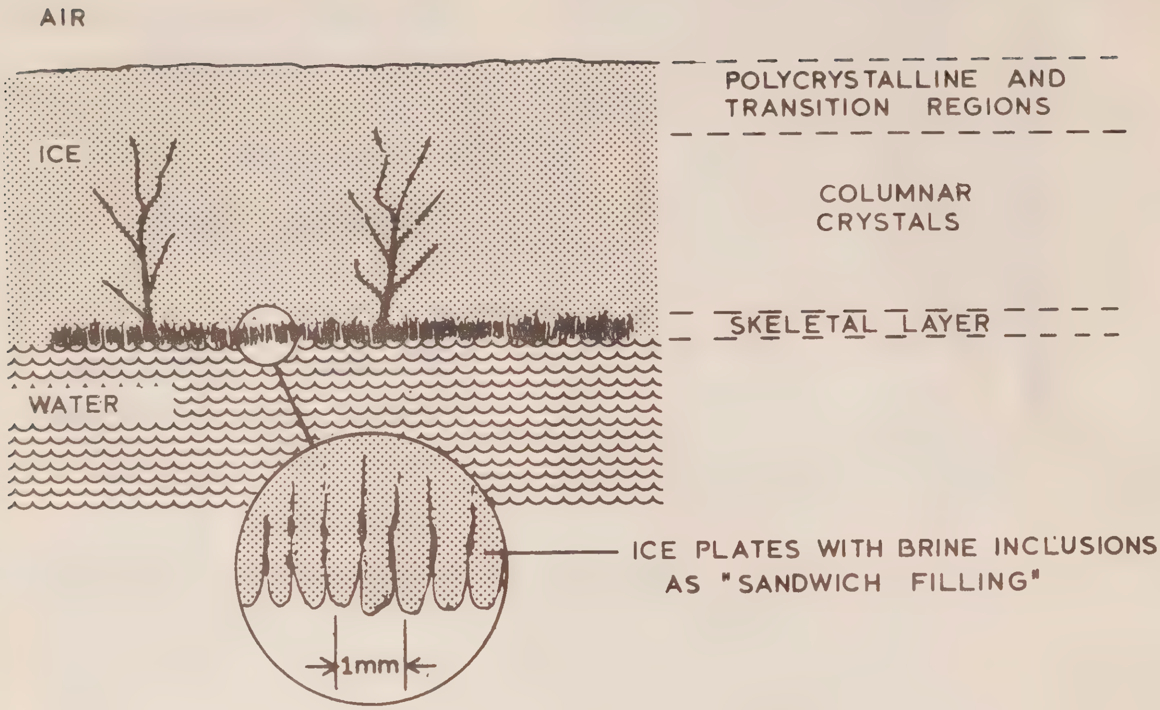


Fig. 3 Brine drainage channels and the skeletal layer in growing sea ice. The ice plates are the basal planes discussed in the text.

The ice described grows annually from open water in the coastal regions of the Beaufort Sea, and attains a maximum thickness of about 2 meters by May. Further from the shore the existing sea ice never melts off fully during the summer and ice growth in the following fall starts from a surface largely covered with old rotten ice floes giving rise to what is called multi-year ice as one season follows another. As the winter comes the water in the ice freezes and new ice growth takes place from the lower surface of the old floe. Approximately 50 cm of ice is melted from the upper surface of the floe in each summer and 50 cm grows onto the lower surface each winter when equilibrium thickness has been reached at about 3 meters after four years of this process.

Ice floes move in response to wind and water currents, superimposed on which is a force due to the rotation of the earth, the "Coriolis" force. This force tends to deflect moving ice to the right in arctic regions. On occasion ice movement results from a distant storm when forces are transmitted outwards from the storm centre by collisions and pressure between the floes themselves. This is the explanation of floe movement in calm waters on a windless day. As floes are compressed together by forces of this type the thinner and weaker edges will break to form a "pressure ridge". This is a long trail of heaped ice blocks more or less along the common edge of the two floes. The blocks above water level become partially welded together by the freezing of water brought up with them as they broke off, while those below also weld,

but far more solidly as all interstices between the blocks will initially be water filled. It is also possible to produce pressure ridges by "shearing". This is a side swipe motion in contrast to a head on collision and the trail of ice blocks on each floe are now moving with respect to each other. A given floe may also collapse at some interior weak point due to pressure applied at the edges when the ridge follows the line of weakness. That portion of the ridge above the general level of the ice sheet is called the "sail" and hydrostatics requires that a corresponding "keel" should exist to support it. Such keels are often of depth three to four times the sail height.

Compressions or shears causing pressure ridge formation have their opposite in rarefactions causing floe separation or cracking so that open water is exposed. These exposures usually are long winding channels of water of varying width called "leads", a name originating with old-time polar voyagers who used them to lead their vessels further into the ice field. Sometimes floes come to rest leaving lake-like open areas of water often interconnected by leads. These are "polynii" (singular is polynia).

Figure 4 shows the distribution of ice types in the Beaufort Sea. Towards the end of winter, annual landfast ice extends out from the shore, its outer edge keeping remarkably close to the 25 meter water depth contour. The northern area is filled with multiyear ice moving in a counterclockwise manner along past the shores of Banks Island and across the Mackenzie River mouth and then westwards until floes may be seen off the north shore of Alaska. This is the southern half of the "Beaufort Sea Gyre", a circulation of ice driven in large by the prevailing wind patterns of the region. The multiyear ice is broken, refrozen, compressed, extended into a wide variety of shapes ranging from rubble fields to pressure ridges with sails up to 12 m in height. Between this moving polar pack, formed of multiyear ice, and the annual ice attached to the shore is the shear zone, so called because of the relative movement between the two ice masses. Even in mid-winter there is some open water in this region, but for the main part it is filled with fragments of ice broken off from either side, and the term "seasonal pack" has been used to describe it. These floes are in a continual state of movement and collision, leads open and close, ridges are formed and the resulting large floes rebroken at a different angle. New ridges are interspersed with old ones existing in the original pack mass and an observer flying over the area sees a chaotic jumble of cross hatching of ridges and leads, with floe sizes ranging from very small up to a few kilometers in linear extent.

In summer the ice leaves the shore and retreats northward and the line AA on Figure 4 shows the minimum extent of ice in an average year. It must be emphasized that the figure shows only the average positions of the various ice types. There is a very high degree of variability from year to year, good and bad ice years being very noticeable to ship's masters entrusted with the annual supply voyages from the Mackenzie Delta or eastwards along the north shore of Alaska to the Delta. In summer the open water south of the line AA of Figure 4 is interspersed with moving ice according to the nature of the year so that mixtures of polar pack and rotting annual ice, with or without large ridges incorporated into the floes, may drift down the coast and run aground. Scour marks on the sea bed made by the keels of large ridges have been observed at a water depth of 50 m.

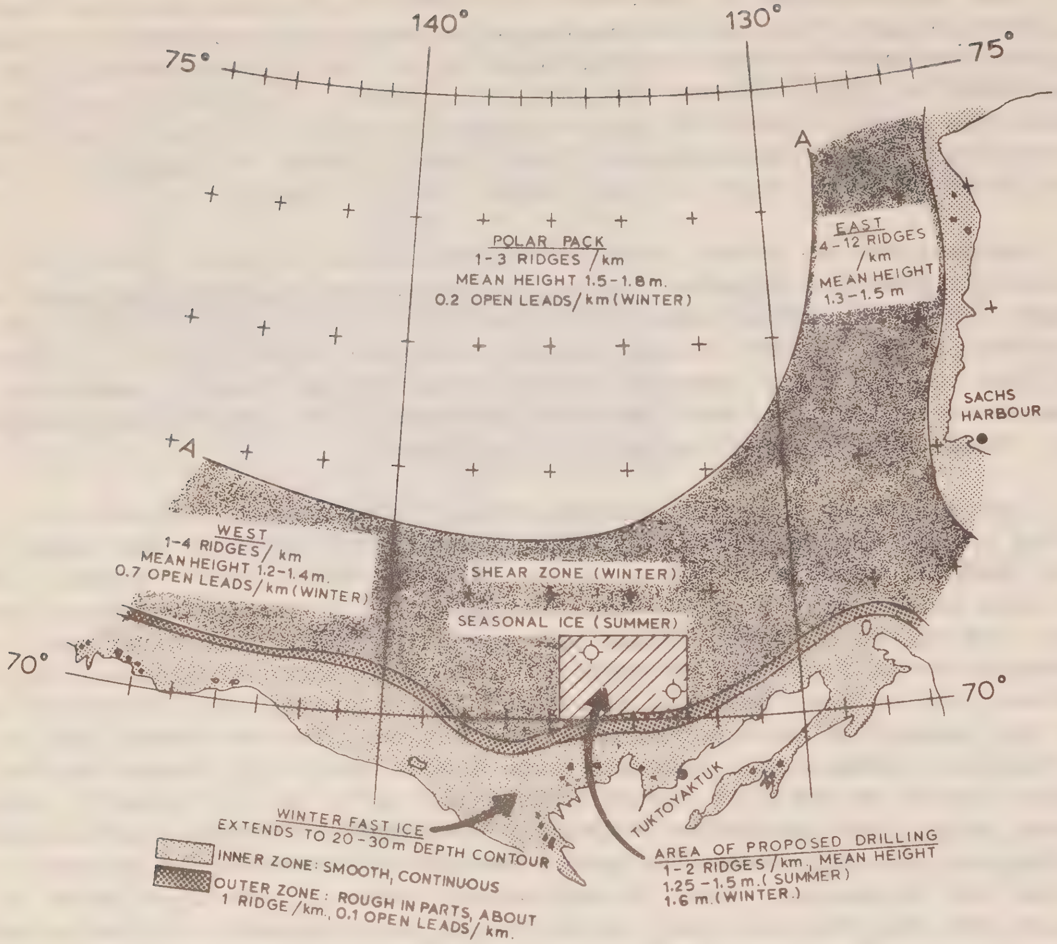


Fig. 4 Sea ice types in Southern Beaufort Sea. The range of ridge frequencies given covers both summer and winter conditions. The polar pack is formed of multiyear ice which in winter intrudes south into the shear zone to give an almost continuous moving ice cover. In summer it forms an intermittant cover over the same area, the so called "seasonal ice". The line AA represents the maximum summer retreat when all areas to the south would be open water. The drilling area and sites are those proposed by Canmar for the summer of 1976. Data for this figure covers two years' observations only and "averages" as given have little statistical meaning.

If a blowout should occur from any one of the drill sites presently proposed, crude oil could be released into the land fast ice region or into the shear zone, probably late in the summer at the end of the drilling season when the bit had reached depths at which oil might be encountered. Oil would be released into open water or under sea ice and clean up would have to be attempted under conditions ranging from open water to nine-tenths cover with polar pack. Having set the scene, the mechanism of translation of oil from the sea bed to surface will now be considered.

From Sea Bed to Sea Surface

A blowout may occur when the drill bit suddenly strikes a pocket of oil and/or gas at overpressure deep in the earth. All offshore drilling is carried out using equipment designed to prevent the loss of control of the well should such a pressure pocket be pierced by the bit but for the purposes of this study it will be assumed that some failure, human or mechanical, occurs and allows the oil free access to the surface either through the drill well casing or through some geological fault flooded with oil due to the rupture of the casing.

In consultation with the oil industry a standard blowout for the Beaufort Sea area was defined as one with an initial oil flow rate of 2500 barrels/day (400 m^3/day) reducing to 1000 barrels/day after one month. Each barrel would emerge from the sea bed together with gas having a volume of 800 cu. ft. (22.6 m^3) at the sea surface. It is further assumed that this mixture will emerge from the sea bed through a hole of diameter 15 cms which is the probable diameter of the drill hole casing at that point. Should the actual hole be irregular and smaller due to the wreckage of some machinary damaged in the blowout, sand coming to the surface with the oil and gas will almost certainly cut the steel back to full aperture in a short period. If the oil rises through a geological fault, it would probably enter the sea over a much wider area and at a much lower velocity. This would be individual to each case and could not be defined.

Gas and oil mixtures flowing in pipes may adopt a number of different modes of flow according to their relative abundance and the velocity of the composite mixture. The two modes of interest for a standard blowout as defined above are "slug" flow and "annular" flow. For a blowout in waters of depth 120 meters or more slug flow would predominate with alternative sections of oil and gas emerging from the pipe sequentially. In waters of depth 20 meters or less annular flow would predominate where the oil would surround a core of gas as it emerged from the pipe. The transition between these two flows is not clear in terms of flow rate and water depth and there is a region of "froth flow" where the two fluids mix intimately. Experiments carried out injecting oil-air mixtures into water under suitable pressures show that for both slug and annular flow the greater part of the oil rises to the surface with a droplet size centered around 1 mm diameter, however one to two percent of the oil is divided into fine droplets with a diameter of around 50 microns (a micron is 0.001 mm). In contrast oil injected into sea water in the absence of any air floats upwards in droplets of diameter around 1 cm, there being a remarkably small range in droplet sizes. In annular flow the oil emerges from the orifice as a coating to the air bubble which then expands shattering the oil into small fragments as is shown in figure 5. The mechanisms of oil drop formation in the cases of froth and slug flow are less dramatic but appear to produce the same result.

Fig. 5 Injection of an oil/air mixture under pressure into sea water. The oil coats the air bubbles which then expand and scatter forming oil drops of approximately 1 mm diameter. The bubble size is controlled by the orifice diameter.

The expanding gas is a source of energy to mix the oil and water and emulsions could be produced. The emulsion is an intimate mixture of oil and water which in the presence of certain "polar" molecules may be stable for long periods. It is of significance in the case of a blowout because the density of the oil-water mixture is much nearer that of water than oil alone with the results that emulsions could be carried much greater distances by any currents existing in the sea before they rose to the ice-water interface. In addition most emulsions only burn with great difficulty whereas crude oil may often be ignited easily. Experiments carried out both in the laboratory and under Arctic conditions indicate that in a blowout the energy is not suitably applied to the oil/water mixture for stable emulsion formation. This is because the 1 mm oil droplets occur at a concentration of around one per cubic centimeter and so are too far separated to interact. A secondary consideration is the absence or presence of the required polar molecules or "surfactants"; some crude oils (e.g. Norman Wells) do not form a significant amount of stable emulsion under any conditions but Swan Hills Crudes have been found to vary greatly in their emulsion forming characteristics. These two crudes were chosen for experimentation because of their very different pour point temperatures (0°C for Swan Hills and -55°C for Norman Wells) and chemical analyses. They were thought to represent the extremes of oil types that could be involved in a Beaufort Sea blowout. The summation of experiment and practical experience indicates that no matter what crude oil is discovered, in the case of a blowout it will rise to the sea surface and form a continuous oil slick. Waves would then cause emulsion formation in a suitable oil.

The gas liberated with the oil will cause a vertical circulation in the sea water above the blowout. Similar circulations caused by compressed air released at the sea bed and utilized for pneumatic breakwaters or for the protection of harbour structures from ice have been studied for many years, but never at the scale of the standard blowout defined above. The breakwaters operate due to the horizontal currents produced at the surface by the rising column of water entrained by the air bubbles in their passage up from the sea

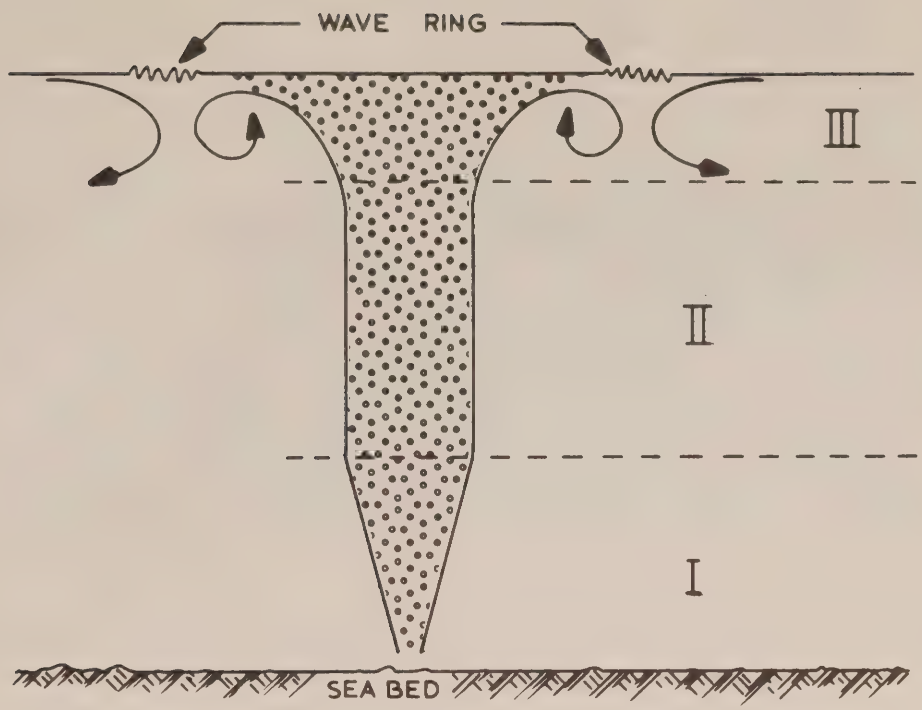


Fig. 6 Water circulation produced by uprising column of air bubbles (schematic). See text for discussion.

bed and ice removal is possible because this entrained water from the lower levels of the sea may be significantly warmer than that at the surface.

Full scale experiments were conducted offshore off Vancouver Island using air supplied from two 280 hp rotating screw compressors. The general features of the water circulation produced are shown in figure 6. These may be conveniently divided into three regions so labelled in the figure. In region I the gas emerging from the sea bed is expanding causing the oil to become finely divided and then itself breaking up into smaller bubbles. Under these conditions it appears that any bubble greater than a certain size tends to become unstable and breaks down to two or more smaller bubbles with the result that when observed, say 5 m from the exit, the bubbles are of remarkably uniform size. This expansion and fragmentation of the gas gives rise to the conical shaped plume shown in the figure. The bubbles rising through the water entrain fluid which enters in the sides giving rise to a mixture containing about 2% air by volume. The rising column of water also contains with it all the oil particles that resulted from gas expansion near the exit on the sea bed. It is worth noting that although the oil may enter the sea at temperatures up to 85°C the heat contained in it is small in comparison to that available at most locations from sea water layers well below the ice, though of course the latter source of heat is at a much lower temperature. The rough calculations show that in a typical case the heat from the oil, immediately shared with the water entrained in the uprising column, will serve

to raise its temperature by less than 0.003°C while heat available in the water column could cause a temperature rise at the ice/water interface of 0.05°C. Above the conical expansion region is a cylindrical column where there is a more or less constant velocity up along the centre line of the system and the gas-oil-water mixture entrains less water from the sides. The third region near the surface is one of radial current flow and escape for the major part of the gas into the atmosphere. Strong radial currents exist out to a certain radius where the flow is bent downwards and, carrying small gas bubbles and oil particles, will descend to a depth of a few meters. Although this description has given the impression of a steady state of affairs, this is not true in practice. Both the conical and cylindrical regions fluctuate violently both in position and fluid velocities measured therein. The surface region is one of expanding vortex rings that may be likened to smoke rings successively hitting the ceiling then expanding outwards, rotating as they go. At the radius at which this ring stops its movement, the flow of water at the surface suddenly changes to be inward and on an open sea surface a "wave ring" is observed. This is the result of the meeting of radially inward and radially outward moving waters and it serves as an area for the collection of floating debris for all the surrounding region. In particular oil coming to the surface will collect at this radius and an annular ring of oil will build up until the hydrostatic pressure difference this causes will allow outward escape of oil. In the case where the water depth at the blowout site is about 60 meters, the wave ring will have a radius varying between 35 and 40 meters and the expanding vortex rings will extend down to a depth of about 10 m. This is the depth to which the smaller oil particles will be carried before they are released and become subject to any other water movement in the area.

If an oil droplet of specific gravity 0.8 and diameter 50 microns is released into the sea 10 m down, in the absence of any other forces acting upon it, it will take about 5 1/2 hours to reach the surface. If for example there were a 10 cm/sec current setting in some direction in that area, the oil droplet would be carried a distance of 2 km before reaching the ice water interface. Thus one must anticipate that in the vicinity of a blowout the effects of the released oil will penetrate at least 2-3 km downstream of the centre of the region if the disaster were to occur in 60-70 m of water.

The above experiments were carried out with an open sea surface. If in fact the sea is ice covered at the time of the blowout, the hydrodynamics of the water movement will be changed in only a minor manner by the presence of the ice. However the gas will collect under the ice sheet, raise it slightly, and sooner or later will escape according to the opportunities of penetrating the ice sheet. One may visualize the outward flowing radial current in contact with gas pockets trapped under the ice sheet in places and other locations directly in contact with the sea ice sheet. Heat available from the waters beneath landfast ice raised to the surface by the bubbler plume may be utilized to melt the ice at a typical rate of a few cm per day or prevent freezing of an area that would thus remain open from late summer when the blowout occurred, throughout the following winter. This would create a circular pool above the centre of the blowout from which the gas would escape through a surface layer of oil. To some extent the oil would contain itself within this pool and a further containment is possible by the wave ring effect mentioned above, that is by inward moving radial currents.

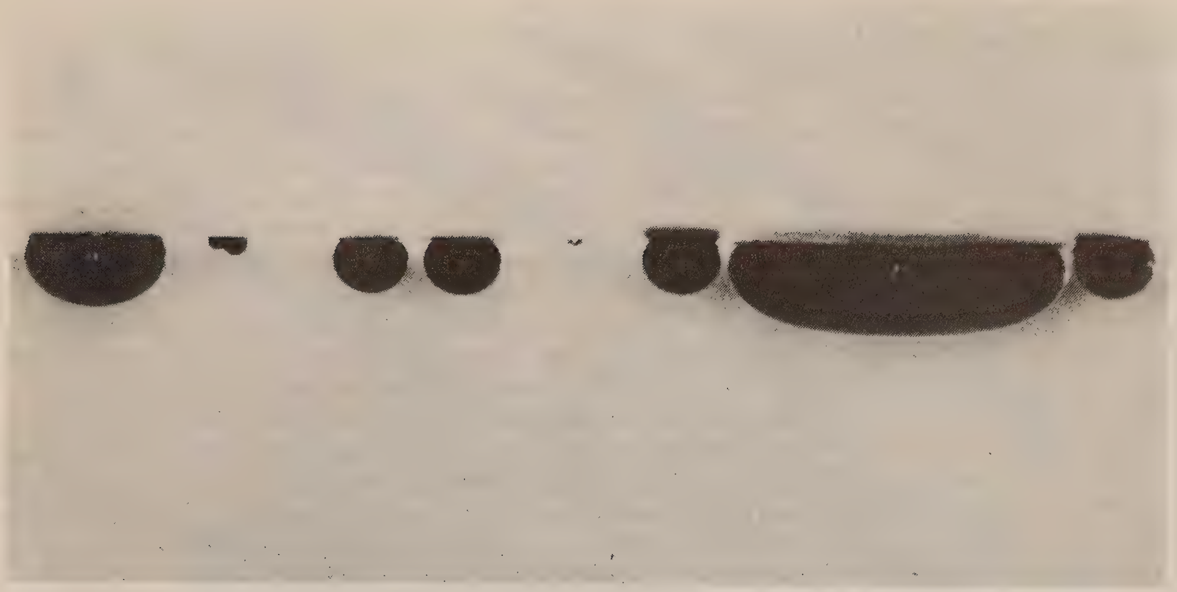


Fig. 7 Crude oil drops beneath a sea ice sheet. Their shape is the result of a balance between hydrostatic and surface tension forces.

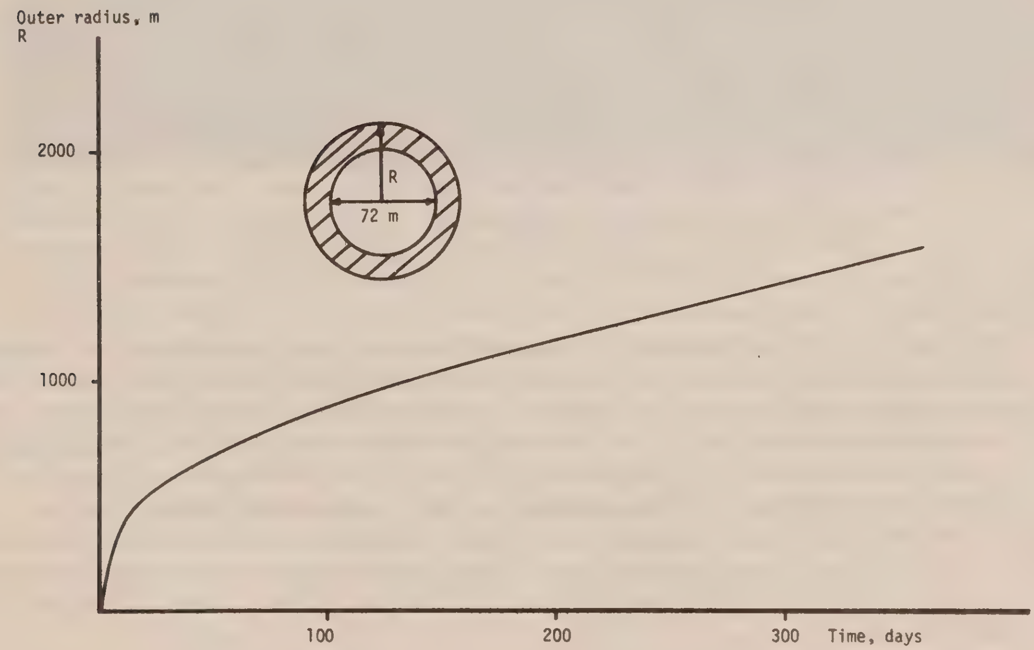


Fig. 8 Radius of the oil contaminated area under an ice sheet as a function of time for the "standard" blowout. This assumes no ice thickness variation so that the ice/water interface is flat with no ability to form oil pools. The oil film thickness is 0.8 cm, that is the minimum possible, and thus the radius given is for the maximum area of contamination.

At the Ice/Water Interface

Crude oil at the ice/water interface forms drops similar to those formed by mercury in contact with a polished surface such as a table. These are called "sessile" drops and their dimensions are the result of a balance between gravitational forces and those due to surface tension. Figure 7 shows such oil drops at the growing interface between ice and water. Small drops are nearly spherical being only slightly deformed by buoyancy forces. Larger drops adopt a flattened profile and as the area of contact between ice and oil increases further, an oil pool is formed, curved at the edges, whose thickness is a function of the oil density and of the surface tension. This thickness is 8 mm for Swan Hills crude and about 8.8 mm for Norman Wells. Oil may collect in pools considerably deeper than 8 mm, but nevertheless using this value one may calculate immediately the maximum area that can be contaminated by a given volume of crude oil. For example 2500 barrels of oil, the initial daily flow rate, (400 m^3) could contaminate a circular area of radius 125 m at the ice water interface. Figure 8 shows the radius of a contaminated area as a function of time for our standard blowout in 60 m of water assuming that no oil was retained within the wave ring diameter of 72 m under land fast ice. Such figures give a useful estimate of maximum areas of contamination but it should be realized that the assumption of a plane ice/water interface is wholly unrealistic. Land fast ice forming in areas of little or no current often shows a lower surface relief of 20 to 30 cm when it is 2 m thick, due to local variations in heat flow associated with snow drifts on the surface. These drifts may occur every 5 m; there is often another periodicity of 15 to 20 cm associated with brine drainage from the interior of the ice sheet which may produce a relief of 1 or 2 cm at the ice/water interface. Currents beneath the ice sheet will tend to eliminate both these relief features by eliminating the non-uniformity of heat flow, so that ice areas below which there is a maximum current flow will show a maximum contaminated area per barrel of oil released. Another order of interface roughness is provided by the mechanical deformation due to ice movement. The opening and closing of leads, formation of pressure ridges all contribute to the irregularity of ice/water interface topography and allow deep pools of oil to form. At the largest scale oil could be contained by the pressure ridges themselves to form pools of irregular polygonal shape. In the absence of significant currents such pools could be ten's of centimeters deep over the entire lower surface of the ice sheet and contain enormous amounts of oil, far larger than those likely to occur as the result of a single blowout. It seems improbable that containment by ridges will be required in practice. For example a two dimensional wave-like (sinusoidal) relief at the ice/water interface measuring 20 cm from peak to trough would contain oil equivalent to a 10 cm layer over the entire interface; the initial day's spill of 2500 barrels would be contained under a square area of ice of side 63 m.

When oil released below the ice in an experiment reached the interface it moved outwards from the central region due to hydrostatic pressure differences as the oil layer thickness built up. Oil may also move up the local slope of the ice/water interface or be moved along by currents in the water beneath. In the case of an actual blowout this is somewhat complicated by the hydrodynamics of the system which, as has already been noted will cause an "oil ring" to exist at a certain radius outwards from the axis of the blowout. In this case the thickness of the oil ring will get greater and greater until such time as the differential hydrostatic pressure caused by it exceeds the

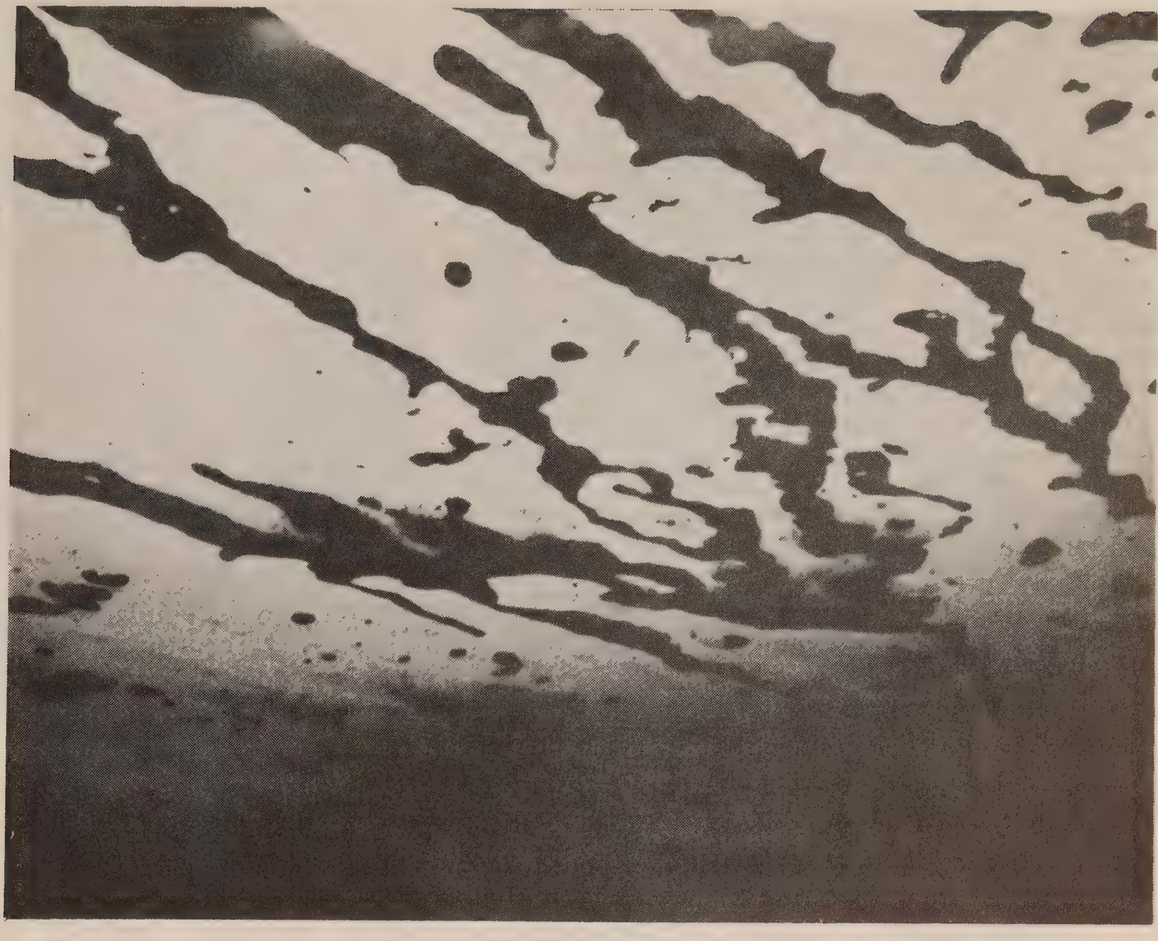


Fig. 9 Rivulets of oil flowing under the sea ice from one depression to another.

forces due to hydrodynamic containment. The oil will then move outward until the escape of oil balances the input from below at the center of the system. The radially moving oil will fill all available irregularities of the ice/water interface and then move onward again in runnels such as are illustrated in figure 9. When an individual pool is full, its curved lip will protrude in a lobe and a rivulet of oil run outward over the ice to flow into the next depression capable of holding oil. In the case of a large spill this process is duplicated at many locations as figure 9 shows.

Individual sessile drops or slicks are quite difficult to move due to "sticking friction" between the drop and the skeletal layer at the ice/water interface. The force required to move them depends on the size, for example in the case of a drop 5 cm in diameter, the interface must slope at an angle to the horizontal of at least 2° before it will start rolling. In an experiment conducted under flat one year ice in April 1975, crude oil was pumped down a pipe and into the water about 15 cm below the ice water interface where a current of 10 cm/sec was recorded. The oil rose to the ice/water interface almost immediately and moved in the direction of the current until flow from the pipe ceased. The slick then remained stationary indicating that the

movement had been initiated in the first place by injection conditions and that the current alone was insufficient to cause motion or allow it to continue. This last distinction is important as usually considerably higher forces are required to start motion than to maintain it. A greater force is required to cause the development of protuberances at the curved oil slick edge than is needed to allow the continuation of flow of oil in the resulting channels. It is thought that a water movement of at least 30 cm/sec is required to move an existing oil slick for no matter how deep such a pool may be, at the edges where the overflow will start, it will be at the minimum thickness of 8 mm approximately. Currents could move oil in another manner which would be significant when a large amount of oil was retained behind the keel of a pressure ridge in a manner analogous to the retention of oil by a boom in open waters. Depending on the size and thickness of the slick, water movement could cause waves to develop at the oil/water interface which could become amplified in the direction of the current and break over the keel carrying oil downstream. Laboratory experiments have shown that the keel, represented by a triangular sectioned obstacle with sides at 30° to the horizontal, can be considered as a simple vertical boom for this purpose so that existing theories of oil containment by booms may be applied directly. However, as has been already stated, it appears very unlikely that oil containment at the scale of pressure ridging will occur in reality.

The above discussion has neglected to consider the effects of gas on the movement of oil beneath the ice sheet. Immediately above the blowout the gas will fill all irregularities at the ice/water interface and oil will be moved radially outward by the surface currents in contact with gas rather than with the ice. The surface layer of oil will be much thinner than it would be were it in contact with ice and oil slicks of the sessile drop type will not be formed out to the wave ring radius. Beyond that radius the effects of gas on oil slick movement will depend completely on whether escape of gas through the ice sheet is possible. For blowouts likely to occur in late summer it is not necessary to consider the escape of gas under a solid land fast ice sheet as during the ice growth period water circulation due to the gas release will tend to leave an open area above the blowout where gas may escape and oil collect. In regions of moving pack it would be possible for a large floe of dimensions a few km to move slowly over the blowout site so that almost all the volume available to retain oil at the ice/water interface would be occupied by gas and the oil moved to the floe edge where it would come to the surface in the adjacent lead. This topic will be re-examined when conditions at the upper surface of the ice sheet or on open water are considered.

Once the crude oil slick remains stationary at a growing ice/water interface its incorporation within the ice sheet is merely a matter of time. First an ice lip surrounds the edge of the pool inhibiting the further horizontal motion of the oil. Such a lip may be seen in the background of Figure 10 which also shows the thermistor chain used to make temperature profile records through the ice sheet.

There is a reduction in heat flow to the surface above the oil pool due to the superior insulating properties of oil compared to ice. As a result more heat flows to the surface from that area of the ice/water interface immediately surrounding the pool, which in turn requires an enhanced rate of ice growth and hence the lip. Some brine drainage will still occur from the skeletal layer of the ice above the oil pool allowing penetration of crude oil

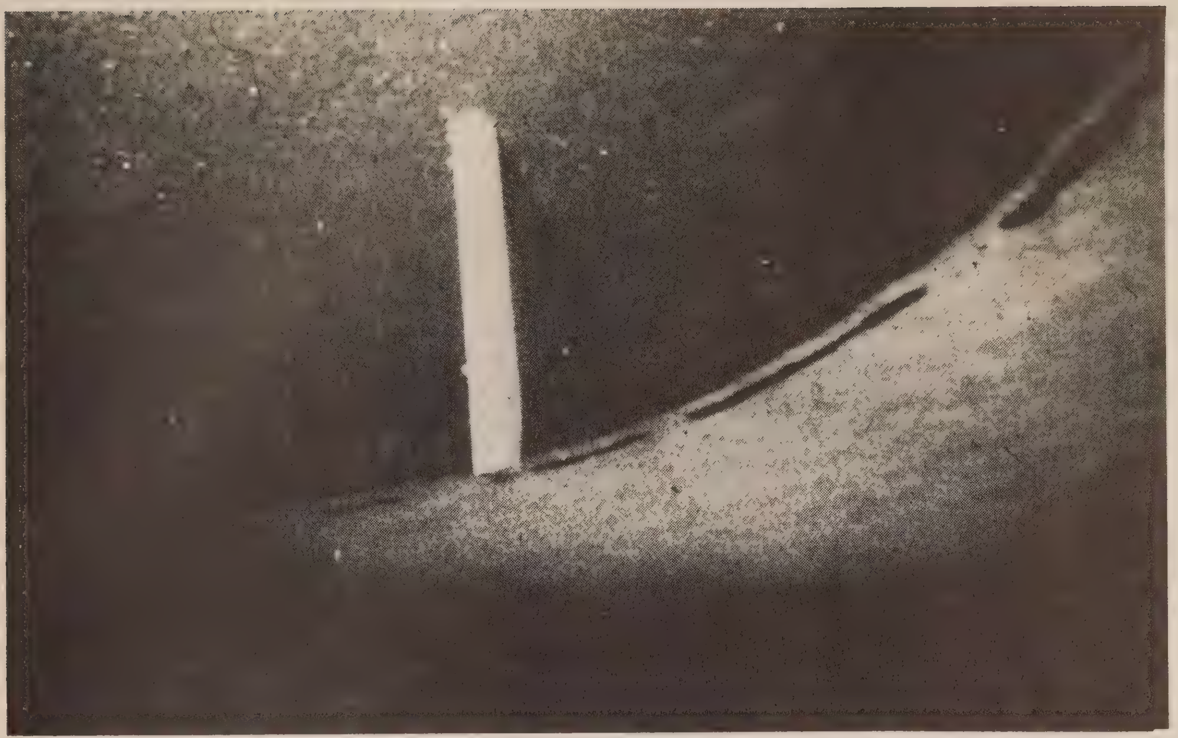


Fig. 10 Ice growth in the vicinity of an oil pool. The white bar is the wooden support for the thermistors used to make temperature readings. In the right background may be seen the ice "lip" which separates the oil pool from long air bubbles which appear black because of the lighting conditions.

a few cm up into the ice sheet. Sometime later, about one week later in the case of ice 160 cm thick in March, ice will start to grow beneath the oil pool so that the latter is now completely encapsulated. This new ice sheet does not appear to be crystallographically connected to that above the oil pool. A new polycrystalline region must form followed by a transition region and a columnar region beneath, as the new ice growth exceeds 10-20 cm in thickness. Thermistor chains inserted through the ice sheets early in the fall, which remained in position throughout the following winter and spring, allowed temperature profiles through the sea ice sheet to be monitored. Crude oil has approximately 1/14 of the thermal conductivity of sea ice, and temperature profiles showed a sharp change in gradient on passing through the oil lens. However this effect did not persist with time and records taken later on in the year show that the profile reverted to a more or less uniform gradient condition. This is due to the onset of convection in the oil pool, the warmer oil at the lower interface between oil and ice rising upwards to displace the colder oil at the top of the pool. Theoretical studies using reasonable values for physical constants of oil and ice show that such convective heat transfer is quite possible in lenses of two or three cm in thickness. With lenses ten or more cm in thickness it is probable that the heat exchange between water and the surface will be enhanced rather than reduced by the presence of the oil once the convective circulation has got going.

Crude oil weathers upon exposure to the atmosphere, the so called "higher fractions" evaporate, and the remaining fluid becomes thicker, more viscous and less flammable with the lapse of time. Analysis of samples of oil taken from these "frozen in" oil lenses over a period of time shows that no significant chemical changes occur and the oil will eventually rise to the ice surface without losing any of its combustibility.

Migration of Oil through the Ice

Once the snow has melted from the sea ice surface in early summer, the brine drainage channels act as foci for internal melting within the ice sheet. The walls of the channels can melt at a lower temperature than can the surrounding ice due to the presence of salt and concentrated brine. The channels are also disruptions in the crystallographic pattern of the ice sheet so the sun's incident radiation is scattered and absorbed. This absorption also occurs at brine pockets and to a lesser extent at crystal boundaries. Once the dense brine trapped in the channels is released by melting, it moves downwards under the influence of gravity into regions of higher temperature enabling it to cause further melting of the surrounding ice. While still remaining above its freezing point the diluted brine will continue to descend causing further melting until it runs right out of the ice sheet and into the underlying water. The salinity of this draining brine has been measured at over twice that of the water from which the sea ice was originally formed and as it emerges at close to its freezing point, a hollow stalactite formed of fine ice particles builds up around the descending brine streamer and hangs down a few tens of cm below the ice sheet. Brine drainage during this decaying phase of sea ice is over fairly quickly and the enlarged channels are now filled with sea water from beneath. These sea water filled holes are again foci for further internal decay of the ice sheet as the salinity at the hole edge is higher than that of the mass of the ice and the discontinuity in the ice mass afforded by the hole enhances radiation absorption. Further enlargement of these holes due to melting accounts for the typical "swiss cheese" appearance of rotting first year ice. The holes gradually penetrate up to the surface of the ice sheet and there drain the melt pools that formed due to absorption of the sun's radiation at the ice surface. Before drainage these pools are "floating" with the ice and are not in hydrostatic equilibrium with the underlying waters. When this floating pool of water is pierced from beneath, a sudden down flow of water must occur from the pool. From an extension of this argument it will be seen that if a crack exists in the ice sheet water in the vicinity will drain through this crack and in doing so cut "river" channels in the surface of the ice. Quite frequently such a crack will drain an area 100 m in radius, and these "dry" areas complete with complex river systems are clearly visible when flying over the ice.

In the foregoing description it has been assumed that complete decay of the ice sheet occurs so that the next year's ice will build up from an open sea surface. However only partial decay may occur at some specific location and ice growth will occur starting from a porous "swiss cheese" type ice matrix. The water flooding the holes will freeze and gradually all the water contained within the porous ice will once again become solid. This water and that in the holes will be nearly fresh as it has been formed from the melting of the previous year's ice and the continued presence of the partially rotted ice sheet during the summer has stopped the wind from creating waves and mixing up the surface layers of water. Thus the upper portion of this second

year ice sheet will include far less salt than that of the original year and even the new ice, growing onto the bottom of the oil ice sheet after all water in pores and holes has solidified, will contain less salt because the water beneath the ice sheet will be fresher than that of the preceeding year. The result, well known to explorers for centuries, is that melt pools on second year or multi-year ice sheets are potable water. A certain portion of the upper level of the ice sheet is lost every year due to melting and this is compensated for each winter by further growth onto the bottom of the ice sheet. The stable thickness of such sheets in the Arctic Ocean is about 3 m with an annual variation of about 50 cm.

Consider an oil spill beneath the growing first year ice. As brine drainage channels occur on average at 15 cm separation in sea ice 2 m thick, one may safely assume that every oil lens will reside beneath one or more brine drainage channels extending upwards into the ice sheet and that oil will have penetrated a short way up that channel in response to brine drainage occurring immediately before encapsulation of the pool by further ice growth. In the spring, radiation absorption within the ice sheet in the vicinity of this dark coloured included oil will be greatly enhanced and as internal melting occurs around the brine drainage channel area, the downward draining brine will be replaced by oil moving upwards. This upward movement in turn brings the oil into a region of higher radiation intensity so that radiation absorption is further enhanced and the oil in the channel will rise faster than before; once it moves, the oil is not stationary within the ice sheet but reaches the surface. The radiation absorption by oil within the ice sheet is such that oil has been observed to come to the surface before the snow cover has been entirely removed. The date on which this will occur will depend each year on cloud cover and other surface meteorological phenomena but typically in the land fast ice areas of the Beaufort Sea the first oil might appear at the ice surface on or about May 10th.

Circumstances are entirely different for oil trapped under multi-year ice. There are no significant brine drainage channels except in the lower portion, which is growth from the immediately preceeding winter, and even these are probably very minor compared with those in first year ice. Moreover the ice sheet will be about 3 m thick and there will be a lesser penetration of radiation down to the oiled level. In the absence of cracks or other flaws allowing the oil to reach the surface directly it is considered that a minimum residence time beneath such an ice sheet would be one year with some oil coming to the surface in the second year. There are considerable unresolved differences of opinion on the maximum residence time and more experimental work on this topic is required.

At the Ice Surface

About 80% of the sun's radiation is reflected back into space by a clean snow surface and this factor is known as the "albedo". The albedo of melting ice is about 60% and this gradually reduces to about 20% when the melt pools are in an advanced stage of development. In contrast the albedo of an oiled surface is in the range 8-10% so that the arrival of oil at the surface will immediately cause accelerated melting and in a short time the oil will be floating in a melt pool of its own making. One may visualize the surface of the ice dotted with black patches where individual oil lenses have reached the surface. Each patch will produce a melt pool and as more and more radiation is incident upon them, these pools will extend until they join.

Eventually some route to the underlying water will be found and the water and oil in the melt pools will drain towards this centre. The momentum of this flow is sometimes sufficient to carry the oil down through the ice sheet against buoyancy forces but it rises to the surface once again so that this central type of drainage pattern forms a mechanism for oil concentration at certain points. Whilst oil patches are floating on their individual melt pools they are weathering. That is their "higher fractions" are being removed, mainly due to evaporation under the intense radiation, and partly by their solubility in the surrounding water. Weathering is a complex phenomenon being dependent on the temperature of the local environment, on the absence or presence of wind and waves, and the nature of the particular crude oil considered. In general, it may be stated that the oil becomes more viscous and less flammable as time goes on. Weathered oils are less likely to spread on the surface of the water and the final result of this process of evaporation of the higher fractions combined with possible emulsification caused by the wave and wind actions is to produce "tar balls". In the present instance, the residence time of oil in surface pools is far too short for tar ball production, but emulsification may occur which once again can have a serious effect upon combustibility. Whether or not the oil from a given blowout will emulsify, is probably the greatest uncertainty that faces the designer of clean-up procedures. For example, Norman Wells crude oil forms unstable emulsions with water which revert back to their original components as soon as the source of energy causing the intimate mixing is removed. Experiments with Swan Hills crude oil have shown that both stable and unstable emulsions can result according to the particular well from which the sample was derived.

As the oil lies on the surface of the melt pools, it will be "herded" by winds. Oil thicknesses of over 1 cm have been noticed at the downwind end of pools in association with 10 mph (4.5 m/sec) winds and as the wind speed increases the oil may be splashed onto the surrounding snow. The thickness of an oil film on the pool surface also depends on the rate at which oil is being fed into the pool from below, the rate at which melting is occurring, and surface tension. Observations indicate that the oil comes up in individual droplets from interstices between the ice crystals forming the pool bed. It is clear that water close to the bed must be near freezing point but temperatures in the oil layer itself on the pool surface have been measured to be up to 10°C on a calm day due to the absorption of the sun's radiation from a cloudless sky. This temperature difference is a positive aid when possible bacteriological methods of oil clean-up are considered but, at least for some oils, the heating helps spreading and inhibits their ability to form drops on the surface of the water. For example Norman Wells crude, when placed on the surface of a pool of water at 0°C, initially spreads to cover the surface of the pool but 1/2 hour later, a second introduction of oil does not thin below about 2.5 mm. This is due to changes in the surface free energy of the oil and water at 0°C when given adequate chance to go into solution with each other; the effect is particularly important when clean-up of oil in leads is to be considered.

Immediately after oil comes to the surface of the ice there will be a period of few days when it may be readily burned. Winds may reduce combustibility due to emulsion production, radiation will inhibit it further as the more flammable fractions are evaporated off. Eventually drainage of the oil pools to some central location will occur as the water in the pools finds its way to a suitable crack for drainage downwards but at this stage it is likely

that the optimum time for burning will have already passed. As the oil comes to the surface in individual bubbles a particular burn-off does not mean that the oil has been eliminated from the area. After the fire has gone out, more oil will come up from beneath necessitating further firing, three burn offs being a typical requirement. The area contaminated by burn off residues is essentially the same as that of the oiled melt pools so that enhanced radiation absorption will remain unchanged by the firing. An exception is if the burning occurs in a high wind when downwind areas may be contaminated by soot falling out of the smoke plume.

If the blowout occurs in the shear zone some oil will reach the water surface directly without having to penetrate the ice sheet though a portion will still be trapped in those irregularities of the ice/water interface that are not filled with gas. Oil rising to the surface in leads and polynii during the winter will be frozen into the sea ice as a surface layer. Freezing usually commences in calm weather so that crudes such as Norman Wells, which does not form stable emulsions, could freeze in as simple oil. However winds will cause snow to drift from the surface of local floes onto the oil in the lead and form an intimate snow-oil mixture. Thus it appears likely that in most circumstances where the oil resides in a lead while ice growth occurs, the surface inclusion will not be easily flammable. In spring or summer conditions oil having properties similar to Norman Wells crude will form thin surface pools of thickness 2.5 mm on the water in leads. Similar experiments with Swan Hills did not allow a similar thickness to be determined because the pour point of the latter oil is around 0°C so that the oil on the water surface was not entirely fluid. It must be emphasized that this ability of oils to form surface layers of appreciable thickness in leads is due to the confining effects of the ice and to the low temperature. The former allows the water surface to become saturated with various soluble fractions of the oil and the latter alters the value for the surface tension at the air/oil/water interfaces. During the summer the radiation absorption on the surface of the lead will result in the heating of the floating oil which will probably inhibit its confinement in surface pools. On the other hand winds will tend to concentrate oil at one side or end of the lead and gradual weathering will make it more viscous and less likely to spread.

When in the leads, the oil will be subject to the processes of mechanical deformation of the ice sheet. Of major importance are pressure ridge and lead formation. It has been suggested that "lead pumping" would be a significant mechanism in spreading of oil over large areas. Successive opening and closing of the leads was thought to move oil further out into the labyrinth of cracks and other leads surrounding the centre at which the spill occurred. These other leads would in turn by subject to opening and closing and move the oil out further still and so on until a very large area could be contaminated from a comparatively small amount of oil released at one location. This argument may be refuted in part by consideration of minumum thickness on the water surface that has been given in the last paragraph. In addition the following argument indicates that instead of "pumping", motion between the floes would serve to fix oil within the ice that initially had been comparatively free to move over the water surface.

When leads close to form a pressure ridge the two floes touch first at one point and subsequently at a second point some distance up the lead to form a long thin "lake". As the lead closes further, the lake is shortened

and narrowed by the crushing of the ice at the two points of contact, the oil skim thickness in the lead is increased and oil is incorporated in between the blocks of ice, broken from the floe edges, that are forming the pressure ridge. As the length of the ridge increases the lake shortens and narrows further until a point is reached where the thickness of the trapped oil layer approaches half that of the ice sheet. Because the specific gravity of the oil is about 0.8 in contrast to 0.9 for the ice and 1.0 for the water, the oil will then spill upwards from the narrowing lake over the surface of the surrounding ice. In winter the oil, if fluid, will flow over snow surface and be absorbed. Typically one cubic meter of oil would be contained by 10 sq m of snow 20 cm thick. The ice blocks forming the ridge will gradually weld together to form a porous oil-holding matrix which may be mechanically weak in its upper regions in comparison to a normal ridge as the oil having displaced water, may not allow proper block welding. In summer no such block welding would occur and oil trapped within the pressure ridge would be held only temporarily. However oil pushed up onto the surface of the ice would become localized in melt pools and be "fixed", at least temporarily, from the freedom of movement associated with open water.

Oil entrapped in snow during the winter will be released in a semi-weathered state when the spring melt occurs. The oil entrapped in pressure ridges is likely to be released with only minor changes in its chemical composition. The surface area contaminated by either of these releases will be very much dependent on the local surface topography at that time but should not exceed more than 20 times the area initially contaminated. Oil may be transported out of the immediate vicinity by surface melt streams, nevertheless the total area contaminated should not exceed that which may be computed by assuming a uniform layer thickness of 5 mm.

Blowout Scenarios

To date drilling in the Beaufort Sea in the shorefast ice zone has been from artificial islands but there are proposals to drill from the sea ice surface using an air cushion vehicle to transport the drill rig to the site. This system is naturally limited to winter use and the blowout, should it occur, would be at the end of the drilling season, for example in March, and will be assumed to occur in a water depth of 23 m.

With presently available equipment, drilling in the shear zone will be limited to the summer months, and a blowout would be likely to occur at the beginning of September in a water depth of 60 m. Later developments may see shear zone drilling during the winter months using a semi-submersible rig whilst drill ship operation in shallow waters in summer is a present possibility. Scenarios for these last two possibilities may be deduced from those of the first two and they will not be considered further here. Near shore relief well drilling would be attempted immediately or by using ships in the following summer but a minimum period of one year would elapse before spudding in a shear zone relief well.

Experimental measurements made on circulation induced by an air release equivalent to the standard blowout gas release at 23 m water depth, show a wave ring radius of 20 m, a maximum axial velocity for the uprising mixture of air and water of 1 m/sec and a radial surface current of 0.5 m/sec as one approaches the wave ring radius. These values are not likely to be

affected significantly by the shorefast ice cover which would be of thickness 160 cm. The gas will collect at the ice/water interface as well as escape to the atmosphere through the drilling hole (moon pool) so that initially most oil rising to the surface should move out under a gas layer to the wave ring and be retained there by hydrodynamic forces in a layer 8 cm thick at the leading edge containing about 25 m^3 of oil. Some oil will rise in the moon pool and, when the oil layer thickness exceeds half that of the ice, will flow out over the snow surface. Gas under the ice sheet will cause internal stresses to develop which may cause rupture in a variety of manners. It is unlikely that any one of the various theoretical models developed will adequately describe the actual situation. Local failure may occur because gas build-up beneath some particularly thin part of the ice sheet causes a stress crack to appear at that point. An ice sheet with uniform irregularities may also be regarded as having a mean thickness somewhere between the measured maximum and minimum values. In this case small scale cracking would not occur but the sheet would rupture when gas had collected under a large area, the diameter of which would be dependent on the gas captured per square meter of ice/water interface, in turn dependent on the amplitude of the interface relief. For a periodic relief of 20 cm (which would hold a gas layer of average thickness 10 cm) a "bubble" of diameter about 70 m would cause rupture. Whichever form of failure occurs it will be a matter of time before the gas escapes from beneath the stationary ice sheet. Once this has happened the oil and water will again contact the underside of the ice sheet at least at some places and oil will be pumped up through cracks to flow over snow covering the upper surface of the sea ice.

Oceanographic conditions in the nearshore area are very highly variable, in terms of season, geographic location, and even of tide. For example in Tuktoyaktuk Harbour salt and fresh water layers often alternate at flow and ebb due to the output from the Mackenzie river. The blowout would cause a change of temperature just beneath the sea ice sheet, due to mixing of the water column from top to bottom so that an average temperature replaces the originally existing profile. For the near shore case the ice cover will be melted at a rate of about 22 cm per day for every positive degree Centigrade of this temperature change; 2 cm a day might be a realistic figure. As the melting progresses oil will eventually remain in a central pool of depth half the thickness of the ice sheet rather than moving out to be held by the wave ring. Gas will bubble out through it to escape from the surface with the oil. The ice sheet will continue to get thinner until an overall balance between the heat input from below and the heat output to the atmosphere has been reached. The degree of thinning of the ice cover caused by a simple oil-less enhancement of heat flow from below varies according to the air temperature. Open water may be seen on warm days but as the temperature drops, ice grows inward from the edges of the hole and may reach a thickness of 10 cm before it is removed again in the next warm spell. When the water surface is kept open by the action of the radial currents at the surface on the ice edge, which prevent inward growth and reduction of heat loss, the energy balance with the atmosphere will be made by the production of "frazil" ice.

This phenomenon is most easily introduced in connection with freezing in the vicinity of rapids on a river which, as is well known, often remain open well into the winter. In calm reaches of the river heat is extracted from the water surface and when the temperature reaches 0°C an ice sheet forms in a manner similar but not identical to that described in Chapter 1 for Sea

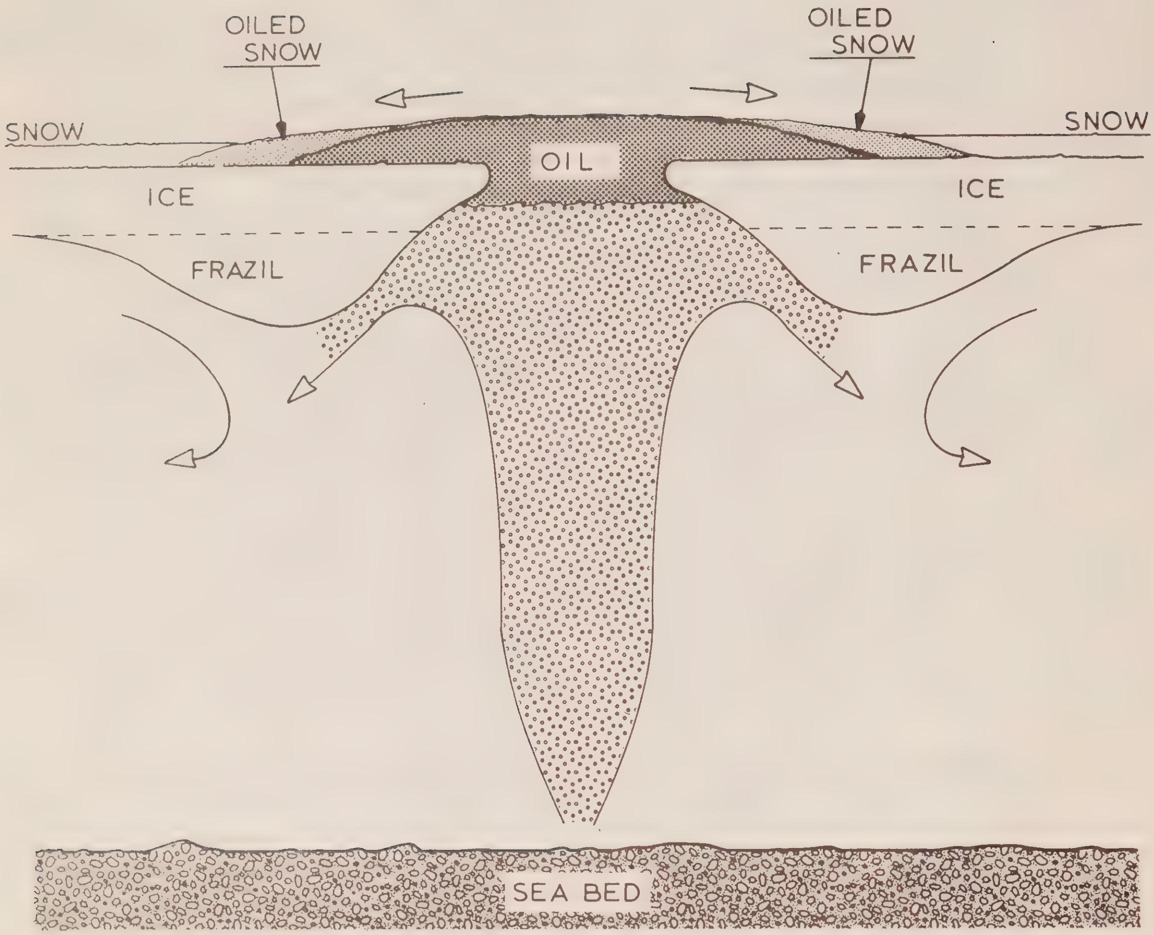


Fig. 11 A fully developed blowout under stationary ice. The oil would be partly emulsified and contain frazil ice (for a discussion see text). This composite would be pumped out over the snow surface when its layer thickness exceeds about half the ice sheet thickness. Conditions for an effective burn off have yet to be established.

Ice. In the rapids the river is well mixed from top to bottom which makes a greater supply of heat available at the surface prior to freezing and also prevents the consolidation of any ice that may be formed. The ice forms in small particles of dimension a millimeter or less which are in the shape of discs, in fact embryo snowflakes before the arms have developed. These discs are easily moved by the water and mix down to the river bed where they may stick onto rocks, weeds, etc. to form "anchor" ice, but in general move downstream until they float to the surface in some quiet reach, usually in the pool below the rapids. There they agglomerate and form an ice mass beneath the existing sheet. This polycrystalline mass may reach the river bed forming ice dams that can cause serious flooding of surrounding areas.

Oil existing in an open water area above the blowout will be at least partially emulsified by the mixing caused by gas bubbling through it. In cold weather there will be frazil ice formation at the oil/water interface and these ice particles will be carried away by the current to the wave ring radius where they will be deposited under the existing ice sheet and thicken it. This thickening can double the ice sheet thickness over a period of time and may seriously change the circulation pattern caused by the gas liberated from the blowout. However currents will still be inflowing outside the frazil ice curtain. Some frazil will undoubtedly be mixed in with the oil and emulsion. Whether or not the mixture will ignite under these conditions is not known. The gas certainly should burn and presumably if there is sufficient back radiation from these flames the oil/ice/emulsion mixture will follow suit. Oil that is in the snow on the ice surface will cover a maximum area given by assuming that it is uniformly distributed at a thickness of 8 cm if the snow is at least 20 cm thick. It will be full of snow crystals and not easy to burn after a few days. A fully developed blowout under land fast ice is shown in Figure 11.

In the shear zone at a depth of 60 m the standard blowout will produce a wave ring radius of 36 m, an axial velocity for the gas/oil/water plume of 0.7 m/sec and a radial velocity near the wave ring of about 0.3 m/sec. The blowout would occur into open water in late summer. In calm weather the velocities given should be sufficient to hold 25 cubic meters of oil within the wave ring before hydrostatic forces overcame those due to hydrodynamics. The thickness of the retained oil would be about 3 cm and this is sufficient to allow easy burning providing of course the containment is not destroyed by ambient surface currents of the same order of magnitude as those induced by the blowout. For example a current of 0.3 m/sec could be produced by a wind of 8.0 m/sec (18 mph) acting for a short period. Waves are probably not significant in this context unless they break, but large ice floes would probably put out the flames and will in addition carry away oil in their underside features. The area surrounded by the retained oil slick will be about 4000 square meters. It is very probable that over this area it is possible to burn off oil at the rate at which it is being supplied from below ($4.6 \times 10^{-3} m^3/sec$).

As the season progresses the blowout site will see ice growth on the local sea surface and progressively greater concentrations of oil floes arriving from the east; the seasonal pack will move into the area with velocities in the range of 1 to 10 cm a second (1 to 9 km/day approx.). The total linear excursion of ice over a year, by no means at a constant velocity, can be between 250 and 1000 km starting near the proposed drill sites, but a given floe may move 2500 km in order to achieve this change in position (Figure 12). These figures are based on the movement of the ice island T_3 and should represent the "worst case" of oil distribution resulting from a blowout. In a given year the excursion of the ice may be far less. Consider a floe moving over the blowout site having a periodic ice/water relief of 20 cm. If it moves at a velocity of 9 cm/sec all available space in a swath 72 m wide, the wave ring diameter, will be filled by the gas available from the standard blowout. Lower velocities will allow this swath to broaden and higher velocities will cause individual cavities in the 72 m width to be less than full. Assuming the wave ring oil retention mechanism is full, ice will become oiled wherever there is remaining space in the interface relief. For example if the floe moves at a velocity of 4.5 cm/sec the gas would fill a swath 144 m wide and oil would be deposited outside this dimension. If the ice floe moves very slowly and is

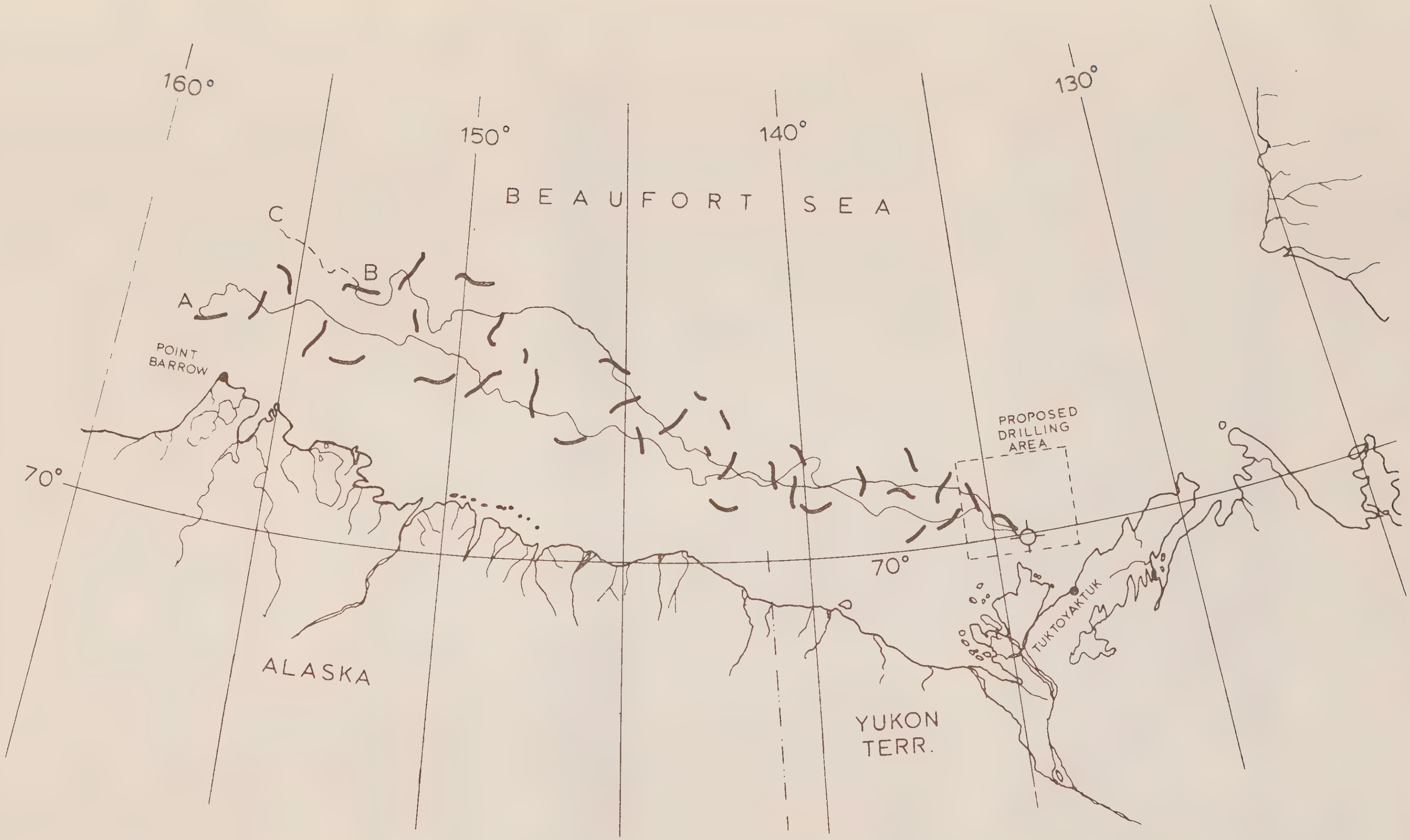


Fig. 12 Drift of oiled ice from the blowout over nine months (schematic). The line OA represents the path of a particular floe oiled at the start of the oil release and OB the path of floe oiled one month later. C represents the location of B one month later so that C is comparable to A and shows the variation of end point with time of release. The short broad lines represent swaths of oiled ice of minimum width 75 m maximum 250 m (?) and are a snapshot of the situation that might face a clean-up crew. Many more segments than are shown would exist in practice. This is a "worst case" as it is possible that the floe trajectories could be far shorter and the oil stay within Canadian waters.

reasonably uniform so that there are no natural small scale escape routes for gas it is almost certain to be "blown up". With a 20 cm interface relief an ice sheet 2 m thick will fail when gas has entirely occupied a swath of width of order 100 meters. Thus all floes with this relief moving at velocities of less than about 6 cm/sec will be ruptured if they are big enough - about twice the swath width. After cracking and gas escape, oil near the crack will come to the surface and the surrounding ice will sink back again to be supported by the water. If the floe is stationary, oil will continue to rise up through the crack and onto the snow surface. There is also the possibility that due to the heat sink provided by the interior of the ice sheet the crack could weld and the sheet be blown up periodically while it melted from beneath in the intervals!

The fate of oil coming to the surface in leads has already been discussed. In winter it will almost certainly become emulsified and then incorporated into the growing sea ice, both directly and by mechanical deformation processes leading to ridge formation. In summer it will weather and as floes move relative to each other be pushed out over the surface of the snow and into melt pools. Oil entrapped beneath the ice will remain there until the May of a later year when it will come to the surface and may be burned if steps are taken to ignite it immediately after its appearance. Although the maximum area of this contamination may be determined by assuming a layer thickness of 8 mm at the ice/water interface a much larger area would have to be traversed in order to clean up all oiled melt pools. For example if the ice sheet moved at 9 cm/sec the main oiling would occur just outside the 72 m width swath. In practice ice floe ridges and their keels would pass over the wave ring and "scoop" oil out from the retained pool. Thus the oil would be distributed over a width of, say, 75 m initially, and individual inclusions could move up to 2500 km before clean-up could be attempted nine months later. Ideally all these trajectories could be the same but unfortunately it is probable that two inclusions, encapsulated within a week of each other could end up tens of kilometers apart. The "worst case" situation that might exist in June of the year following the blowout is illustrated in Figure 12. Each group of inclusions moves as a curvilinear section of minimum width 75 m which has been sheared from the adjacent section by a sudden lateral shift imposed on the main ice drift by internal stresses resulting from storms in a remote area or by local wind stress.

Conclusions

An oil well blowout in open water can probably be fired though wind speeds in excess of 15 mph or up to 25 mph in shallower water will cause some oil loss from the containment ring. In summer in the proposed drilling area, wind velocities exceed 15 mph 50% of the time, so that about half of the oil will be lost though it may continue to burn after leaving containment. The movement of large floes over the site will probably put out the flames and certainly will carry oil out of containment as they pass. When a burn off of this type is possible it should give fairly complete combustion as new oil coming from underneath would allow the residue from the previous burning to be reduced further. The rate of burning would exceed the rate of oil supply from beneath so that burn offs would occur at intervals as the wave ring filled. One might consider that, due to all causes, 40% of the blowout oil would be "lost". When oil escapes from the wave ring due to wind or for any other reason, the slick might be somewhat thicker than at lower latitudes due to the

low temperature of the water giving some "rigidity" to the oil.

A blowout under landfast ice or into open water which subsequently develops a stationary ice cover produces a situation whereby far the greater part of the oil is pushed out onto the ice surface to be absorbed by whatever snow is present. A "normal" snow cover can absorb a 10 cm thick layer of oil. This would not be true in the early stages of ice growth before a significant snow cover existed. In this case one would visualize a pool of oil on the ice being retained at the edges by the deflection of the ice sheet caused by the weight of the superincumbent oil. If the blowout had occurred as the result of drilling from an air cushion vehicle or alternative during the winter it is probable that the relief well could be started almost immediately. Summer drilling in the landfast region is less desirable because the blowout would occur in the fall and there would be a four month wait before relief drilling from the ice might be possible.

A blowout in the shear zone would occur partly into open water and partly under moving ice. The open water situation would be as described above. Oil would accumulate in pockets under the moving ice and also come to the surface directly as floes of significant size would likely be ruptured by accumulated gas at the ice/water interface. Oil at the ice/water interface would remain unweathered and come to the surface in May and June of the following year if under first year ice and in the two following years in the case of multiyear ice floes. If clean-up were attempted immediately it could be burnt off. Oil that came to the ice surface almost immediately after release would be weathered, filled with snow crystals and unburnable by simple techniques. A trail of these burnable and unburnable oil patches could extend up to 1000 km from the blowout site by June of the following year and a great logistic problem would have to be solved before effective clean-up was possible. This Canadian oil export would probably not be appreciated by its recipients.

One or two percent of the oil in all blowouts will be released into the water at a depth of around 10 m as fine particles which will take hours to float to the surface. During this time they may be moved by any ambient currents above that depth.

It is considered that mechanical deformation of the ice sheet would serve to "fix" oil by removing it from the water surface. Thus pressure ridging would reduce the area covered by a given oil spill.

The climatic effects of a standard blowout would be negligible because of the very minor area affected. If, as an extreme case we consider an average thickness of 1 mm of oil spread evenly over the surface, only 0.02% of the area of the Beaufort Sea would be contaminated in one year and if all this ice melted it would be far less than the natural variations of about 5% in ice cover which occur on an annual basis.

A blowout just outside the landfast ice region is bound to produce serious contamination in leads which run both parallel and at right angles to the general direction of the coast. In conditions of open water or partial ice cover oil will be brought on shore by coastal currents and wind. It is the author's opinion that the major hazard of the oil release would be to the enormous flock of birds that use the area as a migration route and habitually feed in these leads, and in the coastal lagoons.

OCEANOGRAPHIC OBSERVATIONS AT OCEAN STATION P (50° N., 145° W.)

Volume 67

9 May – 26 June 1975

INSTITUTE OF OCEAN SCIENCES, PATRICIA BAY
Victoria, B.C.

For additional copies or further information, please write to:

Environment Canada

Institute of Ocean Sciences, Patricia Bay

512 - 1230 Government Street

Victoria, B.C.

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ABSTRACT

Physical, chemical and biological oceanographic observations are made from the weathership at Ocean Weather Station Papa, and between Esquimalt and Station Papa, on a routine continuing basis. Physical oceanography data only are shown, including profiles obtained with bottle casts, conductivity-temperature-pressure instruments, and mechanical and expendable bathythermographs. Surface observations are also shown.

INTRODUCTION

Canadian operation of Ocean Weather Station P (Latitude 50°00'N, Longitude 145°00'W) was inaugurated in December 1950. The station is occupied primarily to make meteorological observations of the surface and upper air and to provide an air-sea rescue service. The station is manned by two vessels operated by the Marine Services Branch of the Ministry of Transport. They are the *CCGS VANCOUVER* and the *CCGS QUADRA*. Each ship remains on station for a period of six weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch.

Bathythermograph observations have been made at Station P since July 1952. A program of more extensive oceanographic observations commenced in August 1956. This was extended in April 1959 by the addition of a series of oceanographic stations along the route to and from Station P and Swiftsure Bank. These stations are known as Line P stations. The number of stations on Line P has been increased twice and now consists of twelve stations (Fig. 1). Bathythermograph observations and surface salinity sample collections, in addition to being made on Line P oceanographic stations, are also made at odd meridians at 40', i.e. 139°40'W, 141°40'W, etc. These stations are known as Line P BT stations. Data observed prior to 1968 has been indexed by Collins *et al.* (1969).

The present record includes hydrographic, bathythermograph and continuously sampled STP data collected from the *CCGS QUADRA* during the period 9 May to 26 June 1975.

All physical oceanographic data have been stored by the Canadian Oceanographic Data Centre (CODC), 615 Booth Street, Ottawa, Ontario, Canada. Requests for these data should be directed to CODC.

Biological and productivity data are published in the Manuscript Report series of the Fisheries Research Board of Canada (FRB), the Biological Station, Nanaimo, British Columbia, Canada. Requests for these data should be directed to FRB.

Marine geochemical data are for the Ocean Chemistry Group, Ocean and Aquatic Sciences, Environment Canada, 512 - 1230 Government Street, Victoria, British Columbia, Canada.

PROGRAM OF OBSERVATIONS FROM *CCGS QUADRA*, 9 May - 26 June 1975 (P-75-4) (CODC Ref. No. 15-75-004)

Oceanographic observations were made by Mr. P. Berrang and Mr. P. Huggett of Seakem Oceanography Ltd., Victoria, B.C.

En route to Station P, only station 5 was missed due to high winds. All other stations were occupied and an STP profile made to near bottom or 1500 metres. Hydrocasts to 1500 metres were taken at stations 6 and 10 following the STP casts.

Surface tarball tows were made at stations 2, 4, 6, 8, 10 and 12.

Salinity, nitrate, alkalinity and total CO_2 samples were taken from the seawater loop at all Line P stations.

The thermosalinograph and the surface temperature recorder were run continuously.

Mechanical BT or XBT's were taken at all Line P and BT stations.

At Station P the oceanographic program was carried out as follows:

I. Physical Oceanography

1) Profiles of salinity, temperature and oxygen were obtained from 6 hydrographic stations to near bottom (4200 metres).

2) 13 STP profiles to 1500 metres and 20 to 300 metres were obtained.

3) BT's were taken every three hours to coincide with meteorological observations, encoded and transmitted according to the IGOSS format.

4) Salinity samples daily at 0000 hrs GMT from the seawater loop.

II. Marine Geochemistry

1) Nutrient samples were collected daily at 0000 hrs GMT and once every hour for a 24 hour period from the seawater loop.

2) Alkalinity and total CO_2 samples every three days from the seawater loop.

3) Air CO_2 samples weekly in quadruplicate.

4) 6-surface tarball tows.

5) 2-seawater C-14 samples extracted from 45 gallon from the seawater loop.

6) Hydrocasts for nutrients, alkalinity, total CO_2, tritium, mercury and hydrocarbon samples.

7) Summary of samples obtained for the Ocean Chemistry Group

94 - Nutrient
85 - Alkalinity and total CO_2
24 - Air CO_2
4 - Air C-13
13 - Seawater C-13
2 - Seawater C-14
13 - Tritium
105 - Hydrocarbon
12 - Mercury
18 - Tarball tows.

III. Biological and Productivity

Samples were obtained as follows:

1) 40 - 150 metre vertical plankton hauls.
   2 - 1200 metre vertical plankton hauls.
   6 - Surface plankton tows for 10 minutes at sundown.
   41 - Micro and nano organism samples filtered from the seawater loop.

2) Samples for plant pigment, nitrate and C_{14} productivity were obtained from three hydrocasts to 200 metres.

En route from Station P, all Line P stations were occupied and an STP profile made to near bottom or 1500 metres. Hydrocasts to 1500 metres were taken at stations 10 and 4 following the STP casts.

Surface tarball tows were made at stations 12, 10, 8, 6, 4 and 2.

Salinity, nitrate, alkalinity, total CO_2 and hydrocarbon samples were taken from the seawater loop at all Line P stations.

The thermosalinograph and the surface temperature recorder were run continuously.

Mechanical BT or XBT's were taken at all Line P and BT stations.

IV. Observations for Other Agencies

1) Marine mammal observations were made by the ship's officers for Mr. I. McAskie, Fisheries Research Board of Canada, the Biological Station, Nanaimo, B.C., Canada.

2) Bird observations were made by the ship's officers for Dr. M. Myres, University of Alberta, Calgary, Alberta, Canada and Mr. J. Guiguet, Curator of Birds and Mammals, Provincial Museum, Department of Recreation and Conservation, Victoria, British Columbia, Canada.

3) Air CO_2 samples weekly in duplicate for Scripps Institute of Oceanography, La Jolla, San Diego, California, U.S.A.

Data was processed for publication by Messrs. C. de Jong, B. Minkley and E. Luscombe.

OBSERVATIONAL PROCEDURES

Temperatures at depth were measured by deep-sea-reversing thermometers of Richter and Wiese and/or Yoshino Keiki Co. manufacture. Two protected thermometers were used on all bottles, and one unprotected thermometer was used on each bottle at depths of 300 m or greater. The accuracy of protected reversing thermometers is believed to be ± 0.02°C.

Surface water temperatures were measured from a bucket sample using a deck thermometer of ± 0.1°C accuracy.

Salinity determinations were made aboard ship with either an Auto-lab Model 601 Mark III inductive salinometer or a Hytech Model 6220 lab salinometer. Accuracy using duplicate determinations is estimated to be ± 0.003 ‰.

Depth determinations were made using the "depth difference" method described in the U.S.N. Hydrographic Office Publication No. 607 (1955). Depth estimates have an approximate accuracy of ± 5 m for depths less than 1000 m, and ± 0.5% of depth for depths greater than 1000 m.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Carpenter, 1965).

Line P engine intake continuous temperatures were recorded by a Honeywell "Electronik 15" Recorder. The temperature probe is at a depth of approximately 3 metres below the sea surface and the instrument accuracy is believed to be ± 0.1°C.

Each ship is equipped with a Plessey Model 6600-T thermosalinograph which is used, on Line P, for continuous recording of surface temperatures and salinities from the ship's seawater loop. The temperature probe is mounted at the seawater loop intake (approximately 3 metres below the surface) and the salinity probe and recorder are situated in the dry lab. The accuracy of this instrument is believed to be ± 0.1°C for temperature and ± 0.1 ‰ for salinity.

STP profiles were taken with a Plessey Model 9006 STP system.

COMPUTATIONS

All hydrographic data were processed with the aid of an IBM 360 computer. Reversing thermometer temperature corrections, thermometric depth calculations, and accepted depth from the "depth difference" method were computed. Extraneous thermometric depths caused by thermometer malfunctions are automatically edited and replaced. A Calcomp 565 Offline Plotter was used to plot temperature-salinity and temperature-oxygen diagrams, as well as plots of temperature, salinity, and dissolved oxygen vs $\log_{10}$ depth. These plots were used to check the data for errors.

Missing hydrographic data were obtained using a weighted parabolas interpolation method (Reiniger and Ross, 1968). These data are indicated with an asterisk in this data record.

Data values which we suspect but which we have included in this data record are indicated with a plus. These data have been removed from punch card and magnetic tape records.

Analog records from the salinity-temperature-pressure instrument have been machine digitized, then replotted using the Calcomp plotter.

Digitization was continued until original and computer plotted traces were coincident. Temperature and salinity values were listed at standard pressures; integrals (depths, geopotential anomaly, and potential energy anomaly) were computed from the entire array of digitized data.

The headings for the data listings are explained as follows:

PRESS	is pressure (decibars)
TEMP	is temperature (degrees Celsius)
SAL	is salinity (parts per thousand)
DEPTH	is reported in metres
SIGMA-T	is specific gravity anomaly
SVA	is specific volume anomaly
THETA	is potential temperature (degrees Celsius)
SVA (THETA)	is potential specific volume anomaly
DELTA D	is geopotential anomaly (J/kg)
POT EN	is potential energy in units of 10^8 ergs/cm^2
OXY	is the concentration of dissolved oxygen expressed in millilitres per litre
B-V PERIOD	is the Brunt-Vaisala period in minutes.

REFERENCES

Carpenter, J.H., 1965. The Chesapeake Bay Institute technique for the Winkler dissolved oxygen method. Limnol. and Oceanogr., 10: 141-143.

Collins, C.A., R.L. Tripe, D.A. Healey and J. Joergensen, 1969. The time distribution of serial oceanographic data from the Ocean Station P programme. Fish. Res. Bd. Can. Tech. Rept. No. 106.

Reiniger, R.F. and C.K. Ross, 1968. A method of interpolation with application to oceanographic data. Deep Sea Res., 15: 185-193.

U.S.N. Hydrographic Office, 1955. Instruction Manual for oceanographic observations, Publ. No. 607.

LIST OF FIGURES

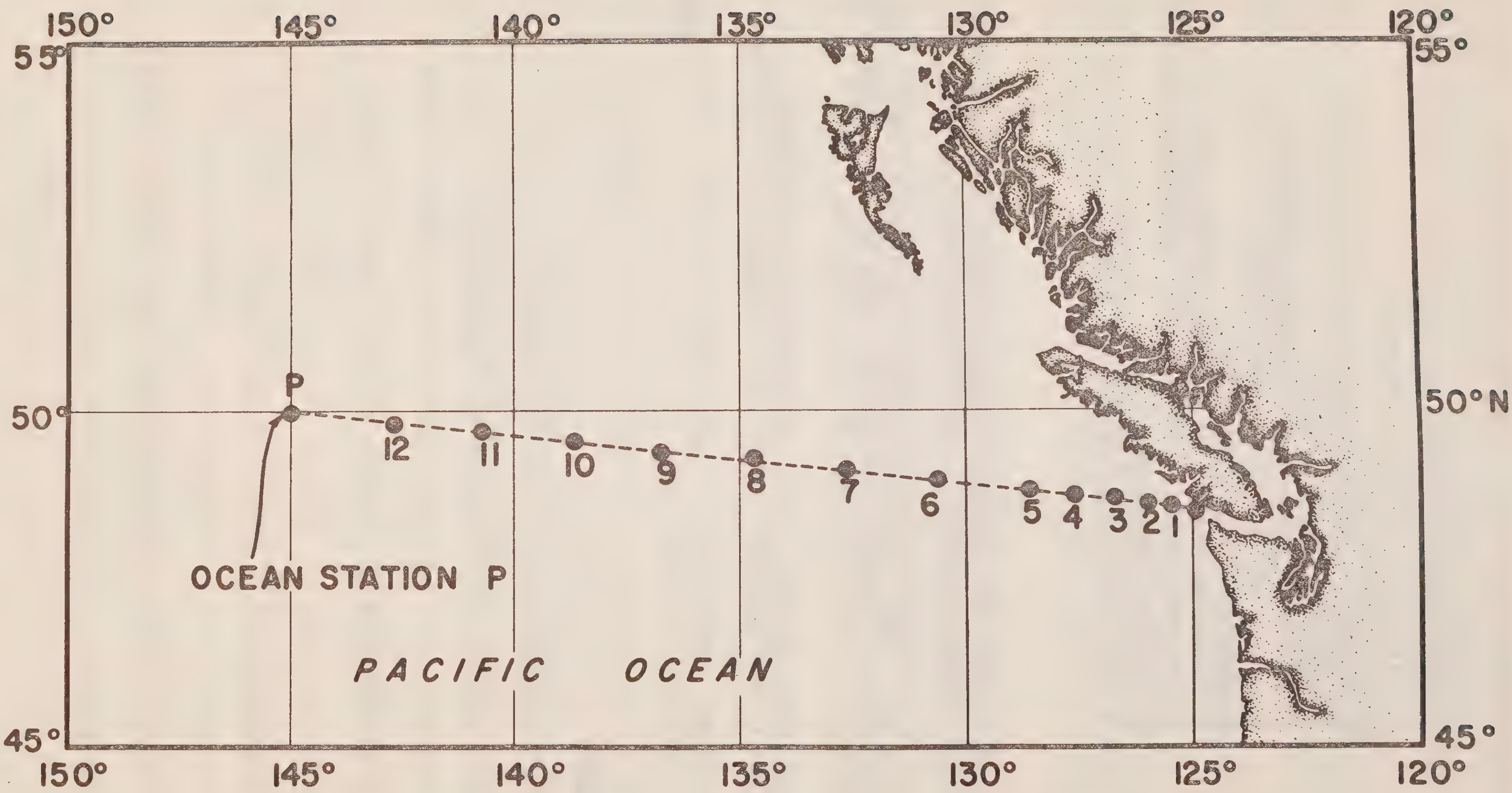


Fig. 1 Chart showing Line P station positions.

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-75-4

(CODC REFERENCE NO. 15-75-004)

RESULTS OF HYDROGRAPHIC OBSERVATIONS

(P-75-4)

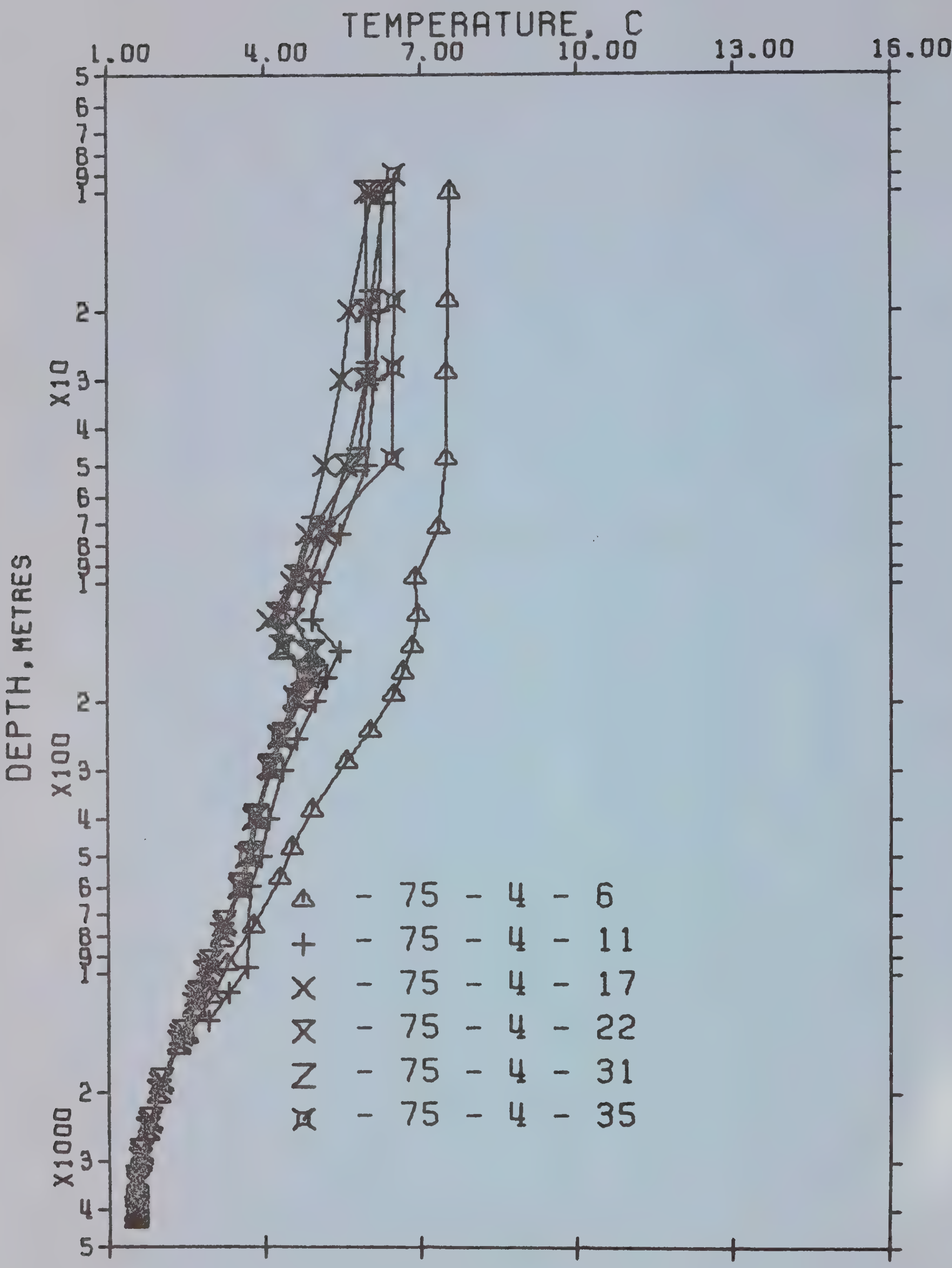


Figure 2. Composite plot of temperature vs $\log_{10}$ depth. P-75-4

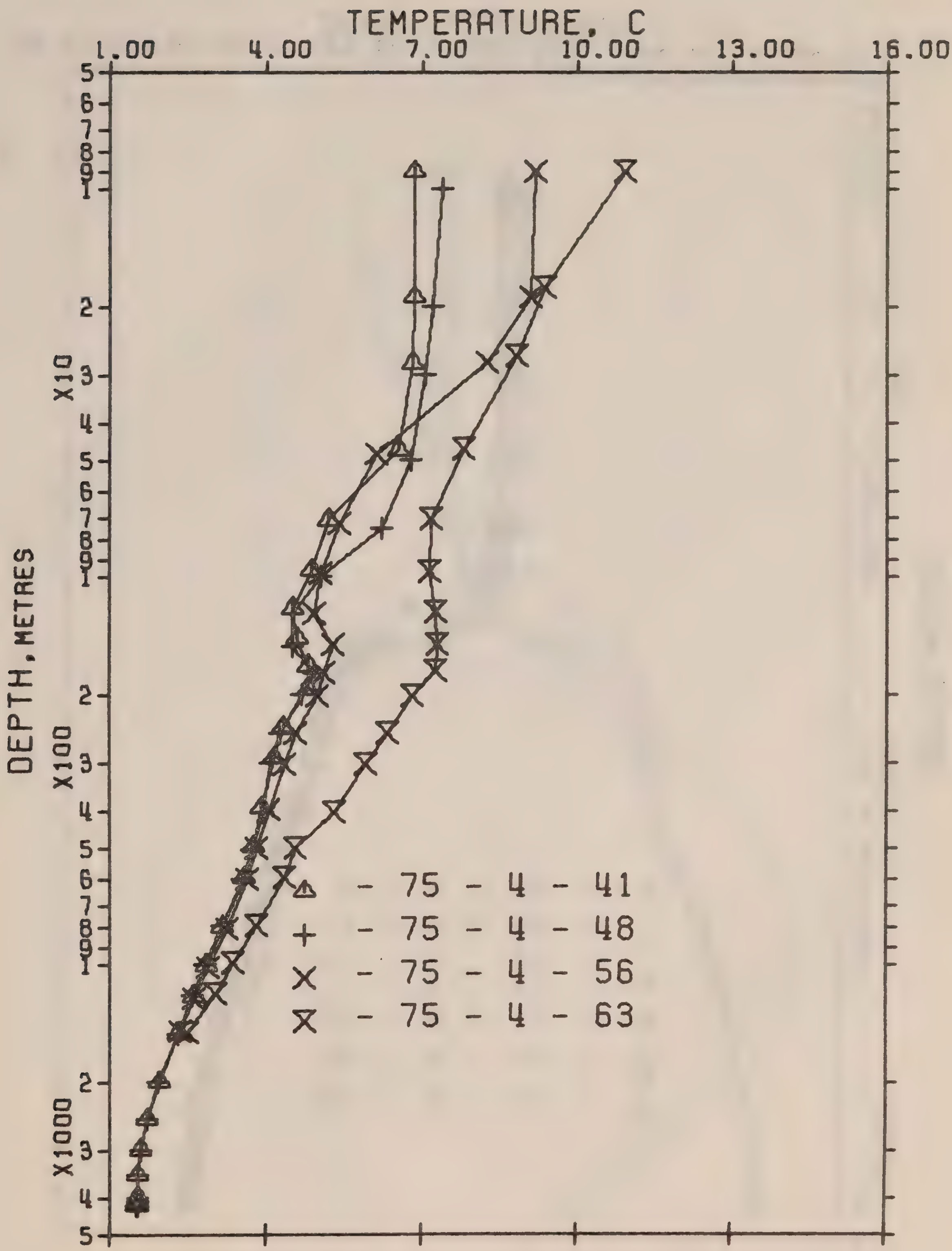


Figure 3. Composite plot of temperature vs $\log_{10}$ depth. P-75-4

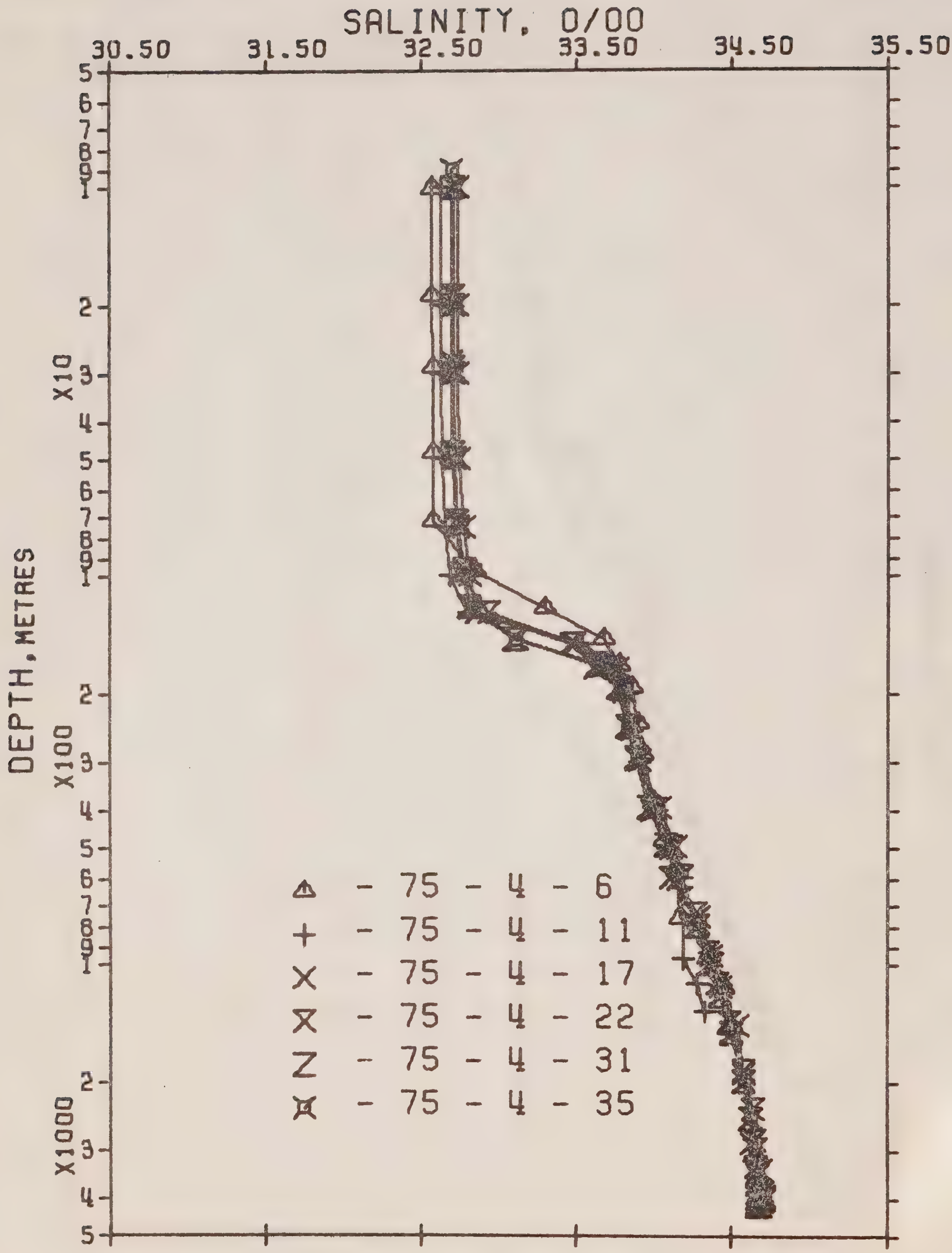


Figure 4. Composite plot of salinity vs $\log_{10}$ depth. P-75-4

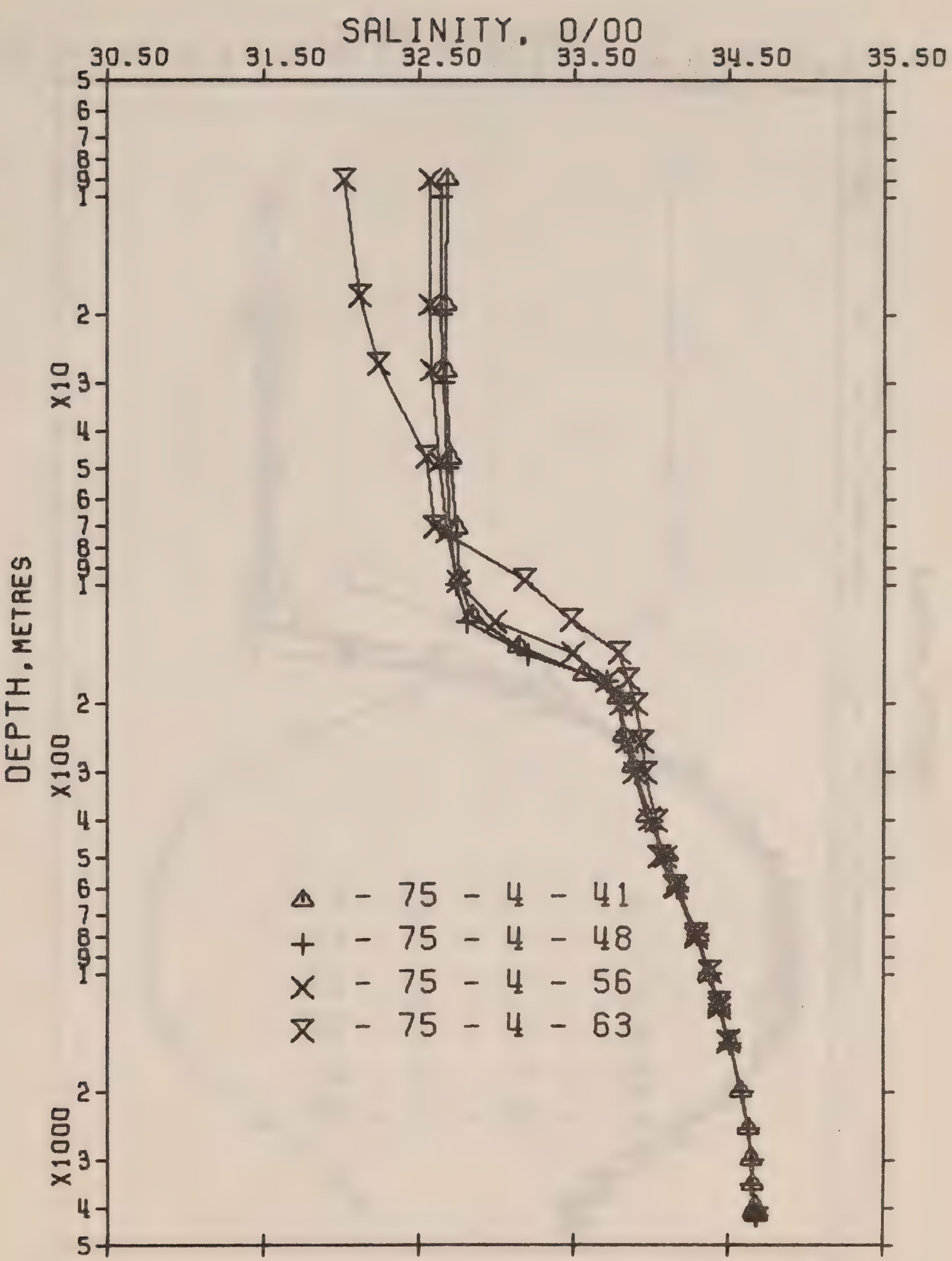


Figure 5. Composite plot of salinity vs $\log_{10}$ depth. P-75-4

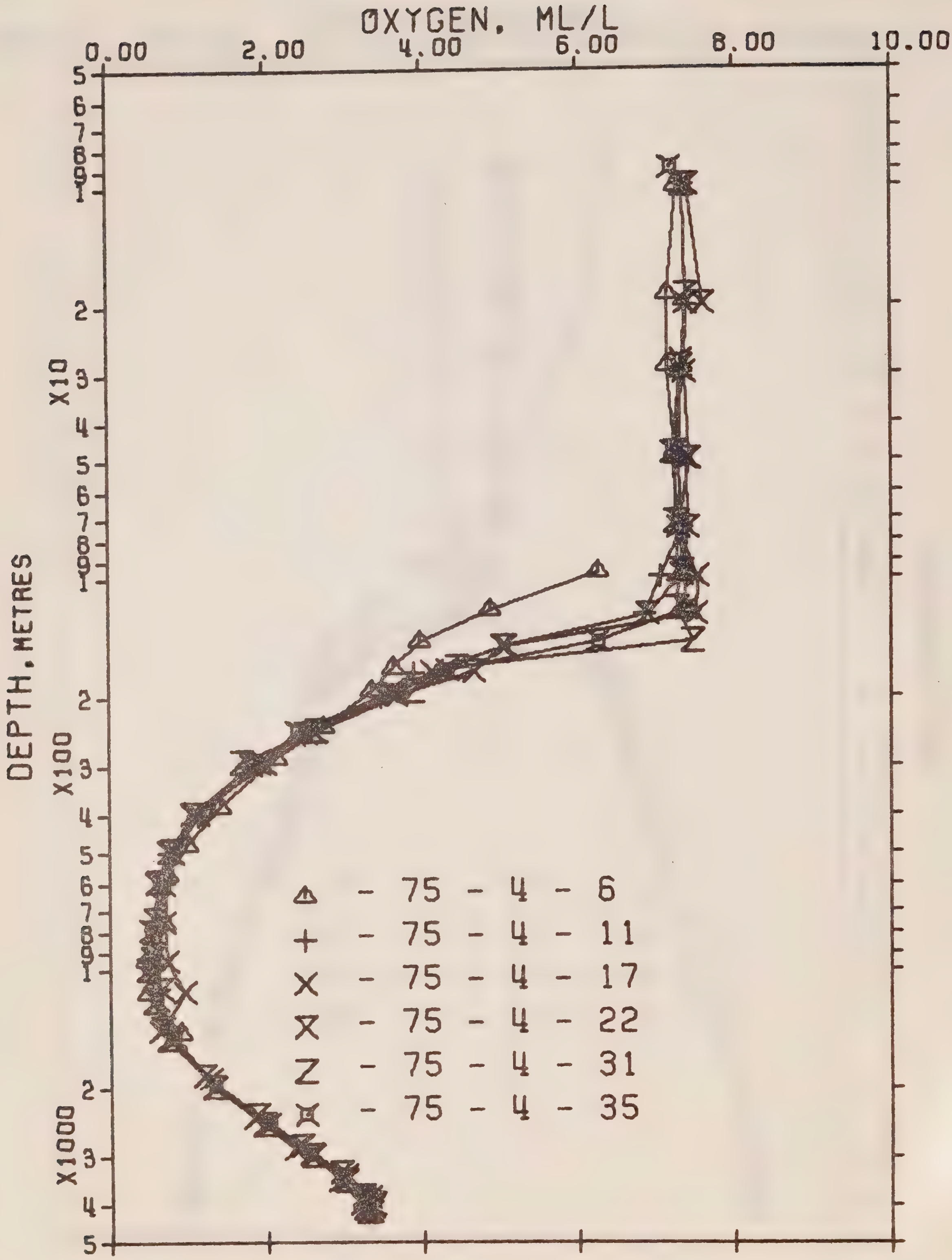


Figure 6. Composite plot of oxygen vs $\log_{10}$ depth. P-75-4

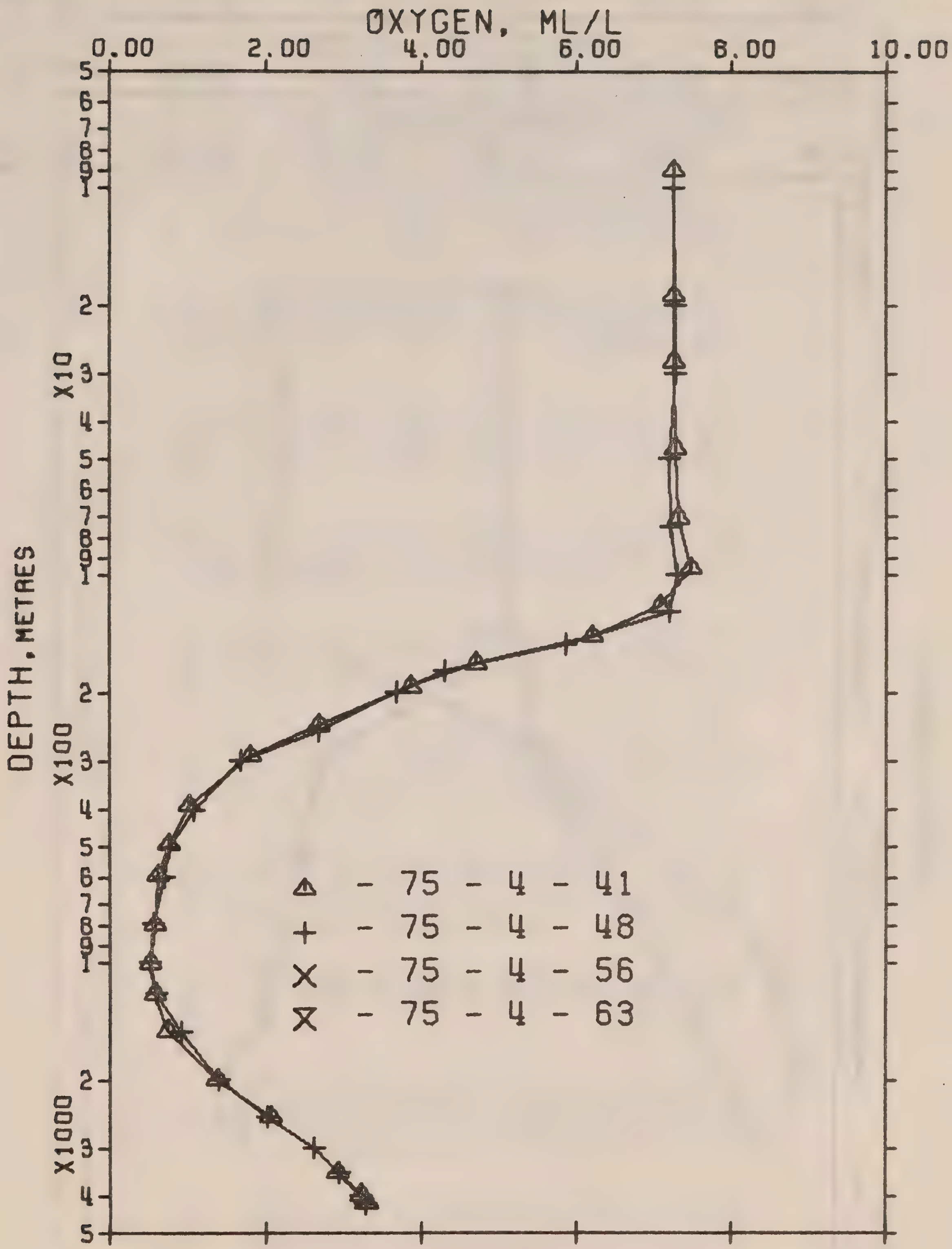
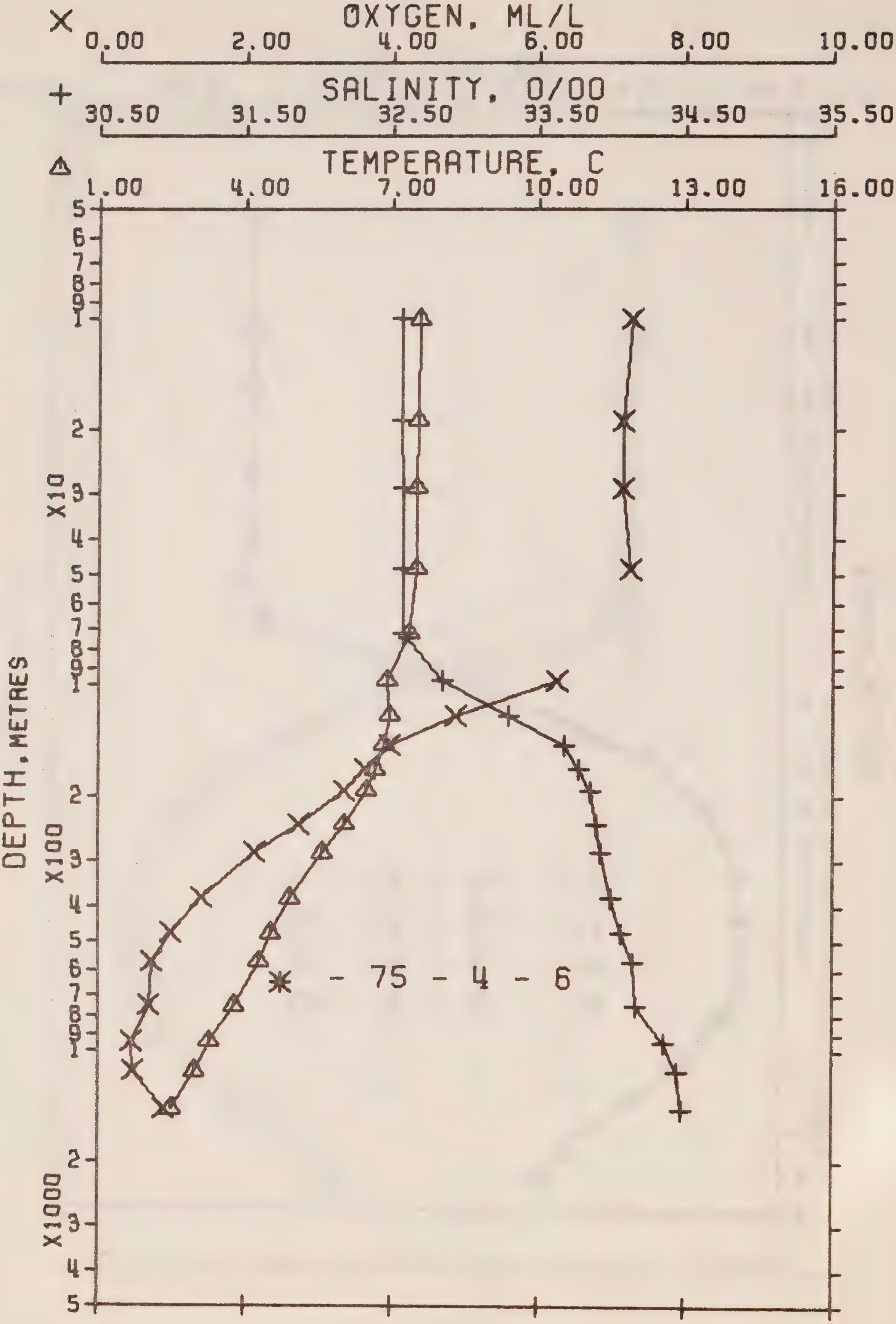


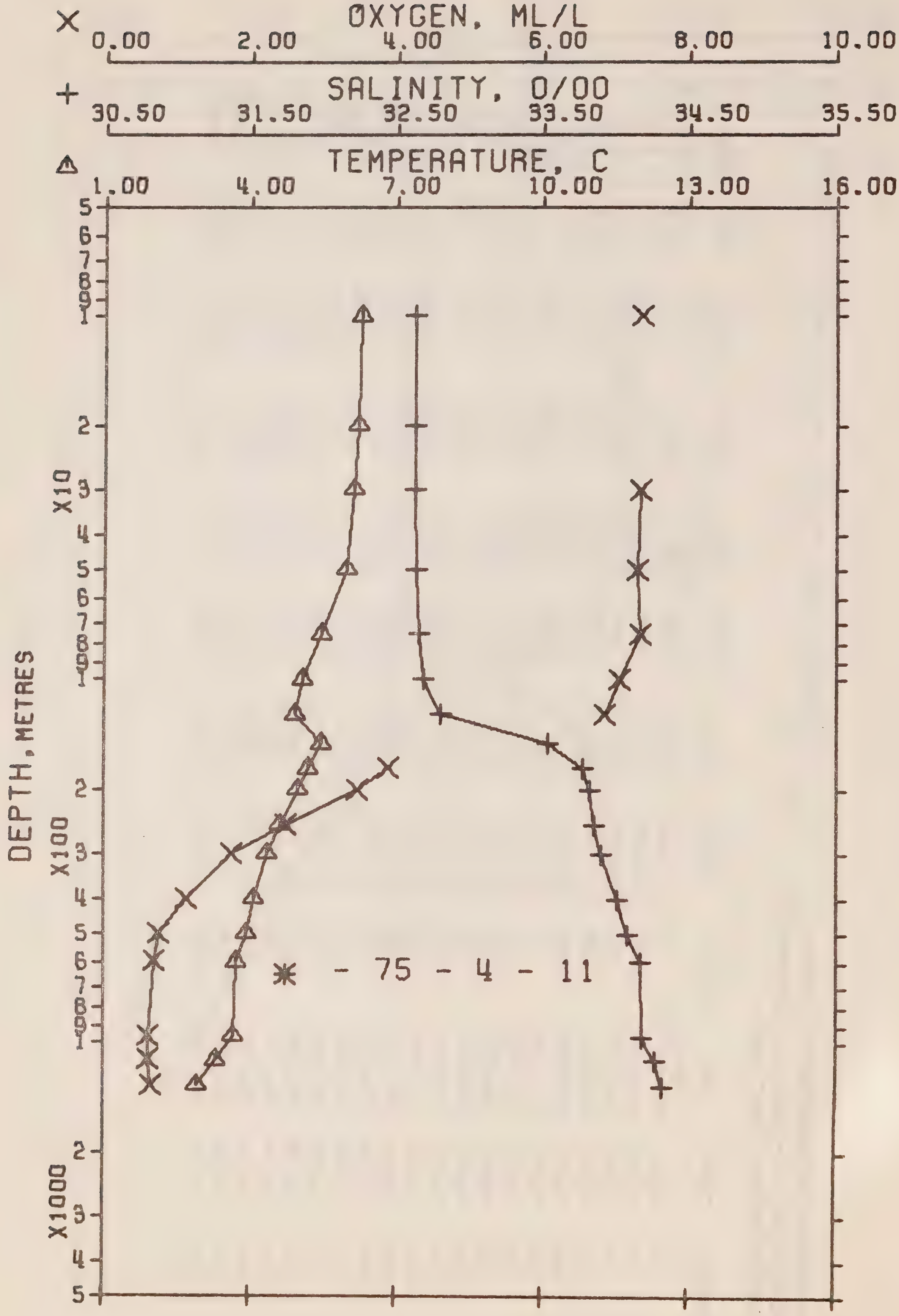
Figure 7. Composite plot of oxygen vs $\log_{10}$ depth. P-75-4



OXYGEN, ML/L
0.00
2.00
4.00
6.00
8.00
10.00
SALINITY, O/OO
30.50
31.50
32.50
33.50
34.50
35.50
TEMPERATURE, C
1.00
4.00
7.00
10.00
13.00
16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 4 - 6

OFFSHORE OCEANOGRAPHY GROUP　　REFERENCE NO. 75- 4- 6　　DATE 10/ 5/75
POSITION 49- 2.0 N, 130-40.0 W　　GMT 17.5
HYDROGRAPHIC CAST DATA

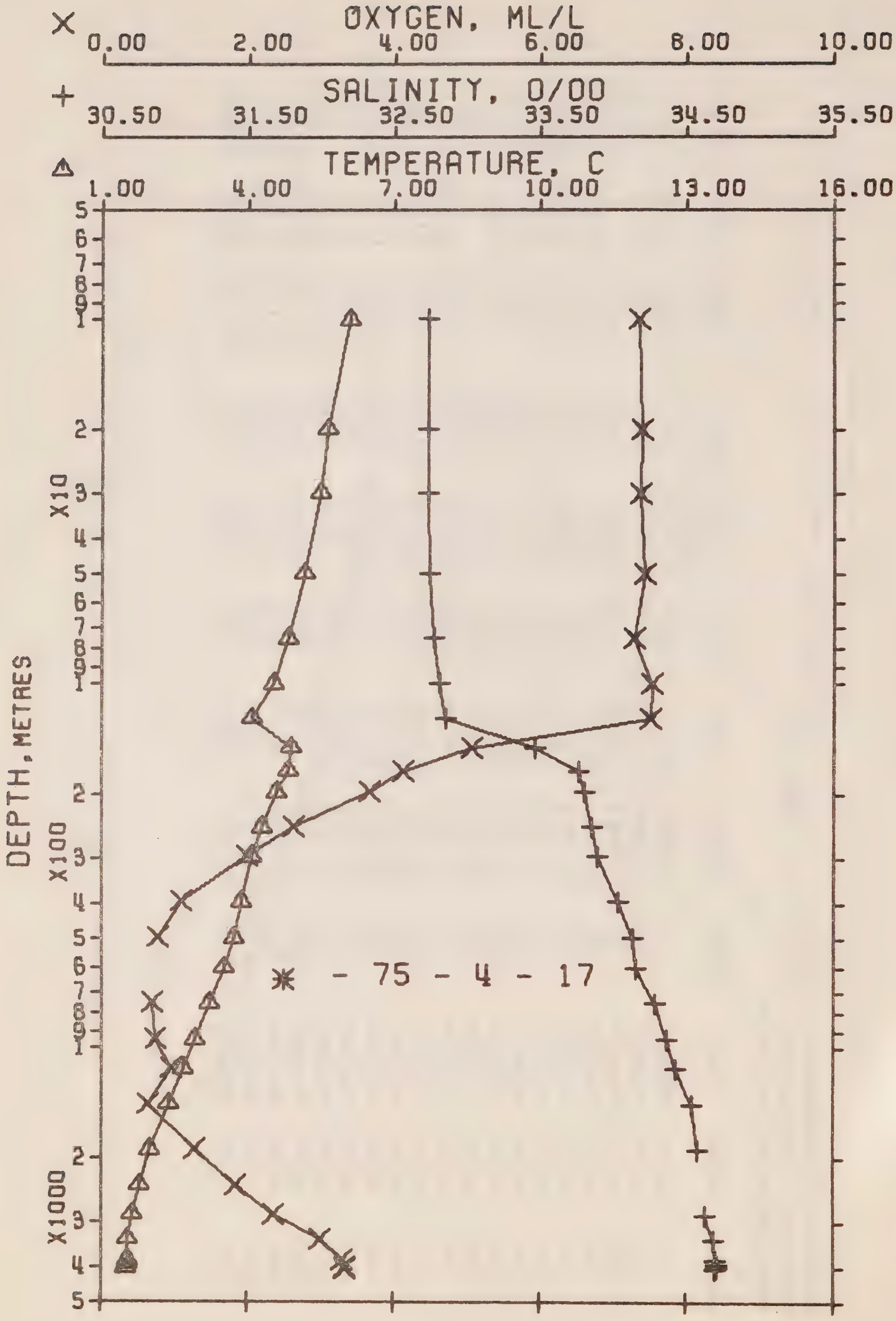
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	7.59	32.567	0	25.448	254.3	7.59	254.1	0.0	0.0	7.12	1478.
10	7.56	32.569	10	25.454	253.9	7.56	253.5	0.26	0.01	7.28	1478.
19	7.54	32.572	19	25.459	253.5	7.54	253.0	0.49	0.05	7.16	1478.
29	7.52	32.576	29	25.465	253.1	7.52	252.4	0.74	0.11	7.16	1478.
48	7.52	32.579	48	25.467	253.1	7.52	252.2	1.22	0.30	7.26	1479.
72	7.37	32.585	72	25.493	251.0	7.36	249.7	1.84	0.68		1479.
98	6.91	32.850	97	25.764	225.6	6.90	224.0	2.44	1.20	6.25	1477.
122	6.96	33.300	121	26.111	193.1	6.95	191.0	2.95	1.77	4.89	1479.
146	6.85	33.684	145	26.427	163.3	6.84	160.8	3.37	2.35	3.98	1479.
170	6.66	33.778	169	26.527	154.2	6.64	151.4	3.76	2.96	3.64	1479.
194	6.49	33.858	193	26.612	146.4	6.47	143.3	4.12	3.64	3.35	1479.
241	6.04	33.900	239	26.703	138.2	6.02	134.6	4.78	5.10	2.75	1478.
288	5.59	33.930	286	26.783	131.0	5.57	127.1	5.41	6.81	2.14	1477.
383	4.94	34.001	380	26.915	119.0	4.91	114.4	6.59	10.85	1.42	1476.
478	4.54	34.069	474	27.014	110.3	4.50	105.0	7.68	15.62	1.01	1476.
572	4.30	34.155	567	27.108	102.1	4.26	96.1	8.68	20.94	0.74	1476.
760	3.79	34.171	753	27.173	96.7	3.73	89.7	10.54	33.67	0.69	1477.
950	3.28	34.357	941	27.371	78.6	3.21	70.9	12.21	48.16	0.46	1479.
1146	2.98	34.452	1135	27.474	69.6	2.90	61.1	13.65	63.54	0.48	1481.
1459	2.50	34.479	1443	27.538	63.9	2.40	54.9	15.71	90.93	0.90	1484.



× OXYGEN, ML/L
0.00 2.00 4.00 6.00 8.00 10.00
+ SALINITY, 0/00
30.50 31.50 32.50 33.50 34.50 35.50
△ TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
✳ - 75 - 4 - 11

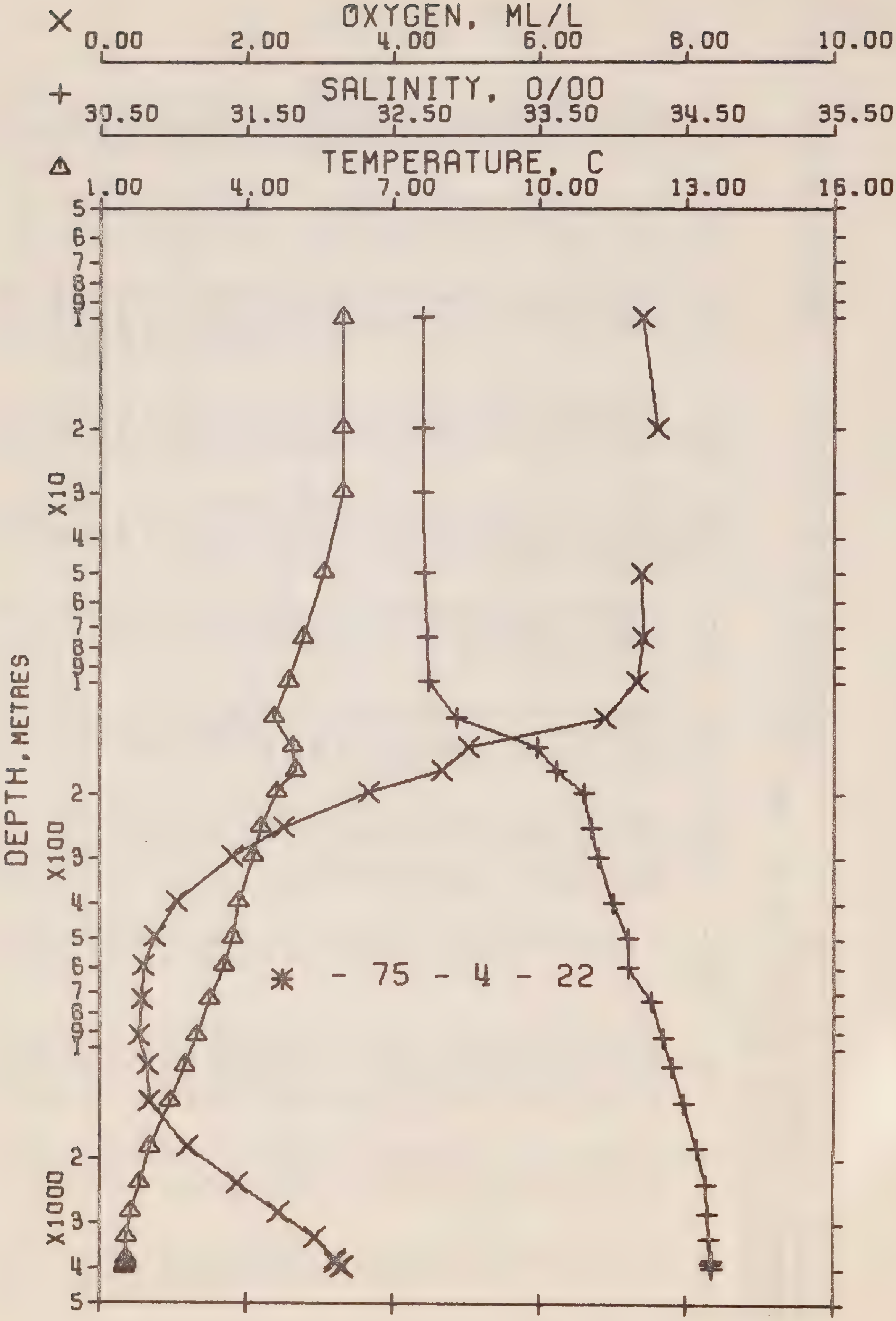
OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 4- 11 DATE 11/ 5/75
POSITION 49-34.0 N, 138-40.0 W GMT 22.0
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.31	32.628	0	25.667	233.5	6.31	233.3	0.0	0.0	7.48	1473.
10	6.29	32.626	10	25.668	233.5	6.29	233.2	0.24	0.01	7.36	1473.
20	6.22	32.634	20	25.683	232.2	6.22	231.7	0.47	0.05		1473.
30	6.12	32.632	30	25.694	231.3	6.12	230.7	0.70	0.11	7.35	1473.
50	5.99	32.637	50	25.714	229.6	5.99	228.8	1.17	0.30	7.29	1473.
75	5.46	32.663	75	25.793	221.8	5.45	220.8	1.74	0.65	7.34	1471.
101	5.08	32.693	100	25.865	215.6	5.07	214.4	2.29	1.16	7.06	1470.
126	4.94	32.811	125	25.974	205.5	4.93	204.0	2.82	1.78	6.86	1470.
151	5.47	33.538	150	26.487	157.2	5.46	155.2	3.28	2.42		1473.
176	5.21	33.785	175	26.713	136.1	5.20	133.8	3.64	3.03	3.90	1473.
201	4.98	33.831	200	26.776	130.3	4.96	127.8	3.98	3.67	3.47	1473.
252	4.64	33.861	250	26.838	124.8	4.62	121.9	4.62	5.15	2.50	1472.
302	4.35	33.908	300	26.906	118.6	4.33	115.4	5.23	6.38	1.76	1472.
403	4.09	34.022	400	27.024	108.2	4.06	104.1	6.37	10.93	1.14	1472.
503	3.93	34.095	499	27.099	101.9	3.89	97.0	7.42	15.83	0.76	1474.
602	3.73	34.180	597	27.186	94.2	3.69	88.6	8.39	21.28	0.71	1474.
969	3.57	34.188	960	27.199	95.7	3.60	87.2	11.84	49.54	0.61	1480.
1130	3.31	34.284	1119	27.310	85.6	3.23	76.6	13.31	65.14	0.62	1482.
1329	2.92	34.332	1315	27.384	78.8	2.83	69.5	14.93	85.49	0.65	1483.


OXYGEN, ML/L
0.00 2.00 4.00 6.00 8.00 10.00
SALINITY, 0/00
30.50 31.50 32.50 33.50 34.50 35.50
TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 4 - 17

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 4- 17 DATE 15/ 5/75
POSITION 50- 0.0 N. 145- 0.0 W GMT 19.1
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.18	32.731	0	25.764	224.3	6.18	224.0	0.0	0.0	7.30	1473.
10	6.10	32.741	10	25.782	222.7	6.10	222.3	0.23	0.01	7.36	1473.
20	5.66	32.743	20	25.837	217.5	5.66	217.1	0.45	0.05	7.40	1471.
30	5.49	32.744	30	25.858	215.6	5.49	215.1	0.66	0.10	7.37	1471.
50	5.17	32.750	50	25.900	211.9	5.17	211.1	1.09	0.28	7.44	1470.
75	4.85	32.778	75	25.957	206.5	4.84	205.7	1.62	0.62	7.30	1469.
101	4.54	32.817	100	26.022	200.6	4.53	199.5	2.13	1.08	7.54	1468.
125	4.10	32.860	124	26.101	193.2	4.09	192.0	2.61	1.63	7.51	1466.
150	4.89	33.475	149	26.505	155.5	4.88	153.6	3.06	2.25	5.08	1471.
174	4.83	33.775	173	26.749	132.5	4.82	130.4	3.40	2.81	4.14	1472.
199	4.61	33.813	198	26.803	127.5	4.60	125.3	3.72	3.43	3.68	1471.
249	4.30	33.859	247	26.873	121.2	4.28	118.6	4.34	4.83	2.65	1471.
298	4.09	33.902	296	26.929	116.2	4.07	113.2	4.92	6.47	2.00	1471.
398	3.89	34.044	395	27.062	104.4	3.86	100.6	6.02	10.37	1.09	1472.
501	3.72	34.138	497	27.154	96.4	3.68	91.8	7.05	15.08	0.77	1473.
606	3.53	34.162	601	27.192	93.4	3.49	88.2	8.05	20.71		1474.
760	3.23	34.287	753	27.320	82.0	3.18	75.9	9.40	30.09	0.69	1475.
954	2.93	34.373	945	27.416	73.6	2.86	66.8	10.90	43.21	0.75	1477.
1148	2.68	34.426	1136	27.480	68.1	2.60	60.5	12.27	57.88	0.97	1479.
1439	2.39	34.542	1423	27.598	57.9	2.29	49.3	14.09	81.89	0.64	1483.
1926	1.99	34.581	1903	27.661	52.5	1.86	43.1	16.73	127.26	1.28	1489.
2416	1.78	34.601*	2384	27.694	50.2	1.61	39.8	19.24	182.81	1.84	1497.
2908	1.62	34.630	2866	27.729	47.7	1.41	36.2	21.65	248.34	2.37	1504.
3402	1.53	34.694	3350	27.787	43.2	1.27	30.5	23.89	320.22	3.00	1513.
3899	1.53	34.705	3835	27.796	43.8	1.22	29.2	26.04	400.45	3.30	1521.
3999	1.54	34.712	3932	27.800	43.8	1.22	28.7	26.48	417.99		1523.
4088	1.52	34.706	4019	27.797	44.1	1.19	28.9	26.87	434.12	3.34	1524.
4098	1.51	34.703	4029	27.795	44.2	1.18	29.1	26.92	436.01	3.34	1524.



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DEPTH, METRES
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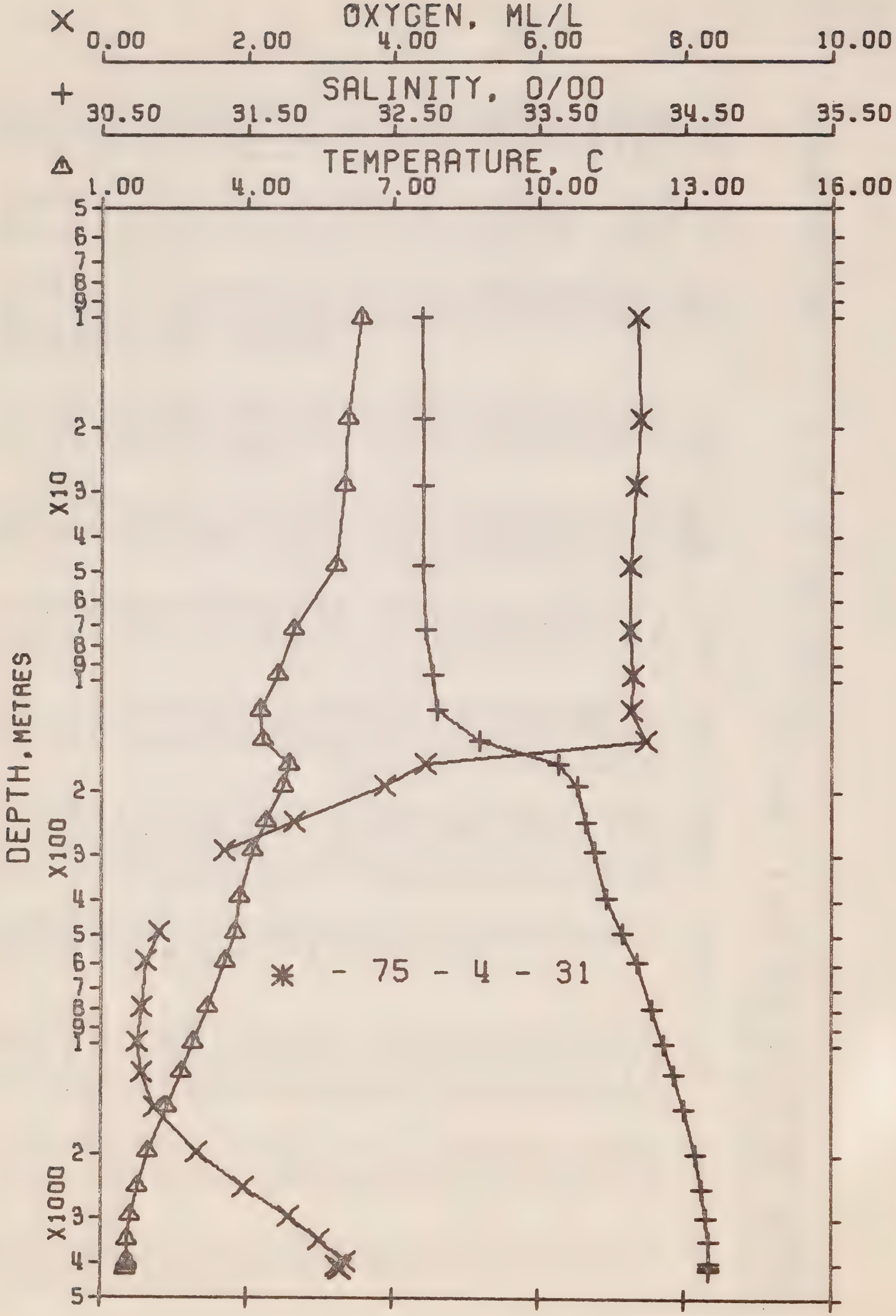
X100
X1000
* - 75 - 4 - 22

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 4- 22 DATE 21/ 5/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 17.9
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.00	32.718	0	25.776	223.1	6.00	222.9	0.0	0.0	7.42	1472.
10	5.99	32.714	10	25.774	223.4	5.99	223.1	0.22	0.01	7.42	1472.
20	5.97	32.712	20	25.775	223.4	5.97	223.0	0.45	0.05	7.61	1472.
30	5.98	32.712	30	25.774	223.6	5.98	223.1	0.67	0.10		1472.
50	5.60	32.717	50	25.824	219.1	5.60	218.3	1.12	0.29	7.40	1471.
75	5.18	32.737	75	25.888	213.2	5.17	212.2	1.66	0.64	7.43	1470.
100	4.86	32.750	99	25.934	209.0	4.85	207.8	2.18	1.09	7.34	1469.
125	4.57	32.945	124	26.120	191.5	4.56	190.2	2.69	1.68	6.91	1469.
150	4.96	33.491	149	26.509	154.9	4.95	153.1	3.12	2.28	5.04	1471.
175	5.02	33.622	174	26.606	146.1	5.01	143.9	3.50	2.91	4.68	1472.
200	4.64	33.815	199	26.801	127.7	4.62	125.4	3.84	3.57	3.68	1471.
250	4.30	33.860	248	26.874	121.1	4.28	118.5	4.44	4.96	2.52	1471.
300	4.16	33.915	298	26.932	116.0	4.14	113.0	5.04	6.63	1.81	1471.
400	3.85	34.011	397	27.040	106.4	3.82	102.7	6.15	10.59	1.06	1471.
500	3.72	34.113	496	27.134	98.2	3.68	93.7	7.17	15.25	0.77	1473.
600	3.55	34.107	595	27.146	97.6	3.51	92.5	8.15	20.76	0.59	1474.
743	3.25	34.275	736	27.308	83.0	3.20	77.1	9.44	29.58	0.57	1475.
935	2.99	34.355	926	27.396	75.5	2.93	68.6	10.95	42.48	0.55	1477.
1126	2.73	34.414	1115	27.466	59.4	2.65	61.9	12.33	57.02	0.67	1479.
1413	2.44	34.493	1398	27.554	52.0	2.34	53.4	14.21	81.34	0.68	1483.
1891	2.02	34.584	1868	27.661	52.5	1.89	43.1	16.92	126.85	1.20	1489.
2370	1.80	34.636	2339	27.720	47.9	1.63	37.3	19.30	178.59	1.88	1496.
2853	1.64	34.647	2813	27.741	46.5	1.43	35.1	21.57	239.10	2.43	1504.
3342	1.54	34.658	3291	27.757	45.8	1.29	33.3	23.82	310.21	2.94	1512.
3840	1.53	34.679	3777	27.775	45.5	1.22	31.3	26.07	392.43	3.21	1520.
3941	1.54	34.672	3876	27.768	46.4	1.22	31.8	26.54	410.98	3.21	1522.
4032	1.52	34.681	3964	27.777	45.7	1.19	30.9	26.95	427.90	3.30	1523.
4042	1.51	34.680	3974	27.777	45.6	1.18	30.9	27.00	429.83	3.32	1523.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TEMPERATURE, C
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DEPTH, METRES
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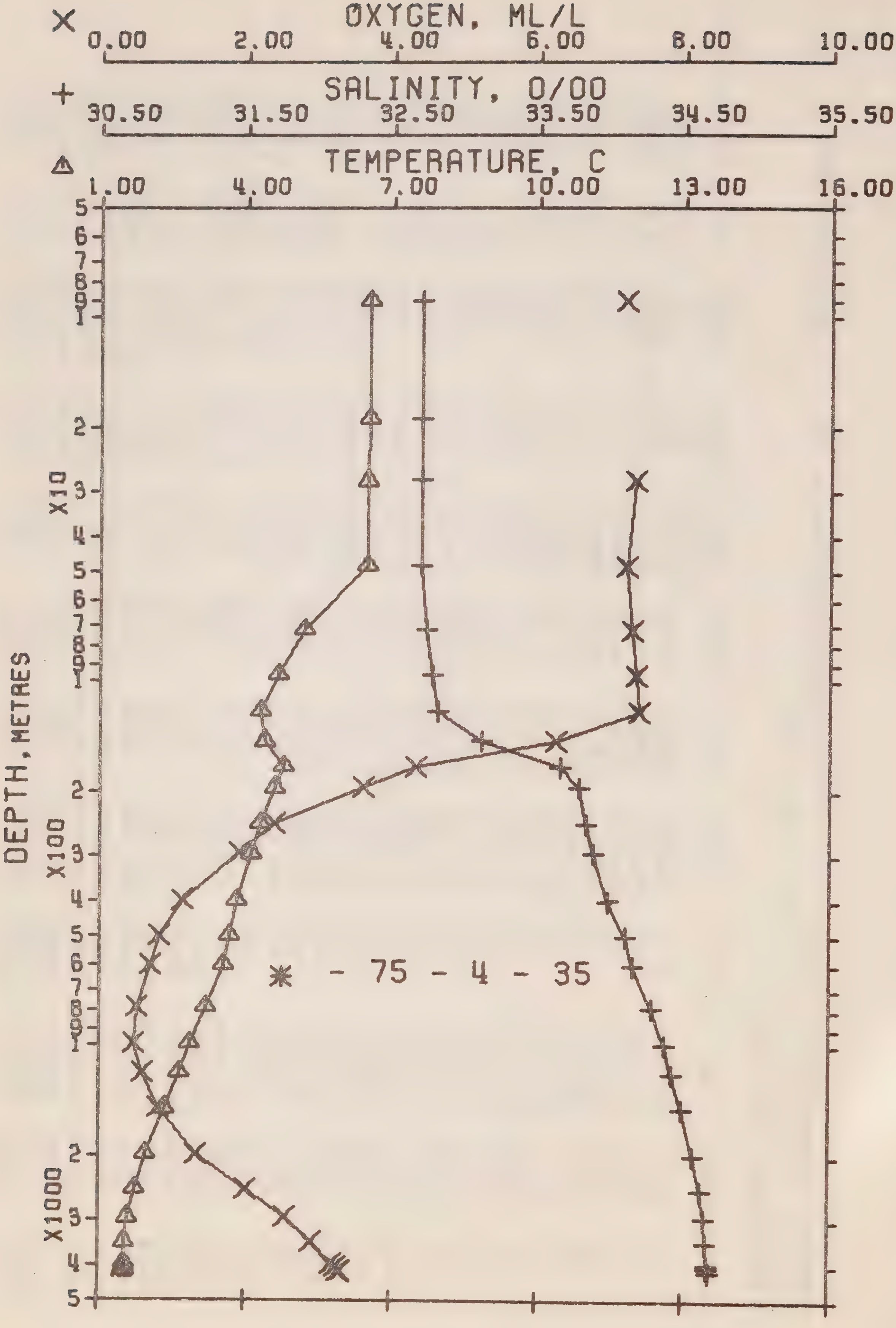
X100
X1000
* - 75 - 4 - 31

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 4- 31 DATE 29/ 5/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 19.8
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.89	32.704	0	25.651	235.0	6.89	234.7	0.0	0.0	7.20	1476.
10	6.33	32.704	10	25.724	228.2	6.33	227.9	0.23	0.01	7.36	1474.
19	6.08	32.707	19	25.758	225.0	6.08	224.6	0.44	0.04	7.40	1473.
29	6.02	32.706	29	25.764	224.6	6.02	224.0	0.66	0.10	7.33	1473.
48	5.82	32.710	48	25.792	222.2	5.82	221.3	1.09	0.27	7.27	1472.
72	4.95	32.732	72	25.910	211.0	4.94	210.1	1.62	0.59	7.26	1469.
97	4.62	32.776	96	25.981	204.5	4.61	203.4	2.12	1.02	7.29	1468.
121	4.28	32.807	120	26.041	198.9	4.27	197.7	2.61	1.56	7.27	1467.
146	4.33	33.096	145	26.265	177.9	4.32	176.4	3.09	2.22	7.47	1468.
170	4.87	33.638	169	26.636	143.2	4.86	141.1	3.47	2.84	4.45	1471.
195	4.76	33.772	194	26.754	132.2	4.75	129.9	3.82	3.48	3.90	1472.
245	4.39	33.829	243	26.840	124.4	4.37	121.7	4.44	4.89	2.66	1471.
294	4.12	33.886	292	26.913	117.7	4.10	114.8	5.04	6.53	1.71	1471.
395	3.86	33.975	392	27.010	109.2	3.83	105.5	6.18	10.54		1471.
495	3.75	34.083	491	27.107	100.7	3.71	95.2	7.23	15.30	0.80	1473.
596	3.54	34.181	591	27.206	92.0	3.50	86.8	8.20	20.69	0.63	1474.
799	3.20	34.278	792	27.315	82.6	3.14	76.4	9.96	33.22	0.56	1476.
1003	2.88	34.365	993	27.414	74.0	2.81	65.9	11.55	47.80	0.50	1478.
1206	2.64	34.428	1194	27.485	67.9	2.56	60.1	12.99	64.01	0.57	1480.
1510	2.35	34.496	1493	27.564	61.1	2.25	52.4	14.93	90.97	0.73	1484.
2012	1.96	34.576	1987	27.660	52.9	1.82	43.2	17.77	141.85	1.32	1491.
2514	1.74	34.622	2480	27.713	48.6	1.56	37.9	20.30	200.22	1.95	1498.
3018	1.60	34.650	2974	27.746	46.2	1.38	34.4	22.63	267.31	2.58	1506.
3526	1.53	34.666	3471	27.764	45.6	1.26	32.5	25.00	344.83	3.00	1515.
4043	1.54	34.674	3975	27.770	46.6	1.21	31.5	27.37	436.18	3.35	1524.
4147	1.54	34.670	4076	27.767	47.1	1.20	31.8	27.85	456.48	3.24	1525.
4241	1.52	34.672	4168	27.770	46.9	1.17	31.5	28.30	475.53	3.31	1527.
4251	1.52	34.674	4178	27.771	46.8	1.17	31.3	28.35	477.61	3.28	1527.



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TEMPERATURE, C
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DEPTH, METRES
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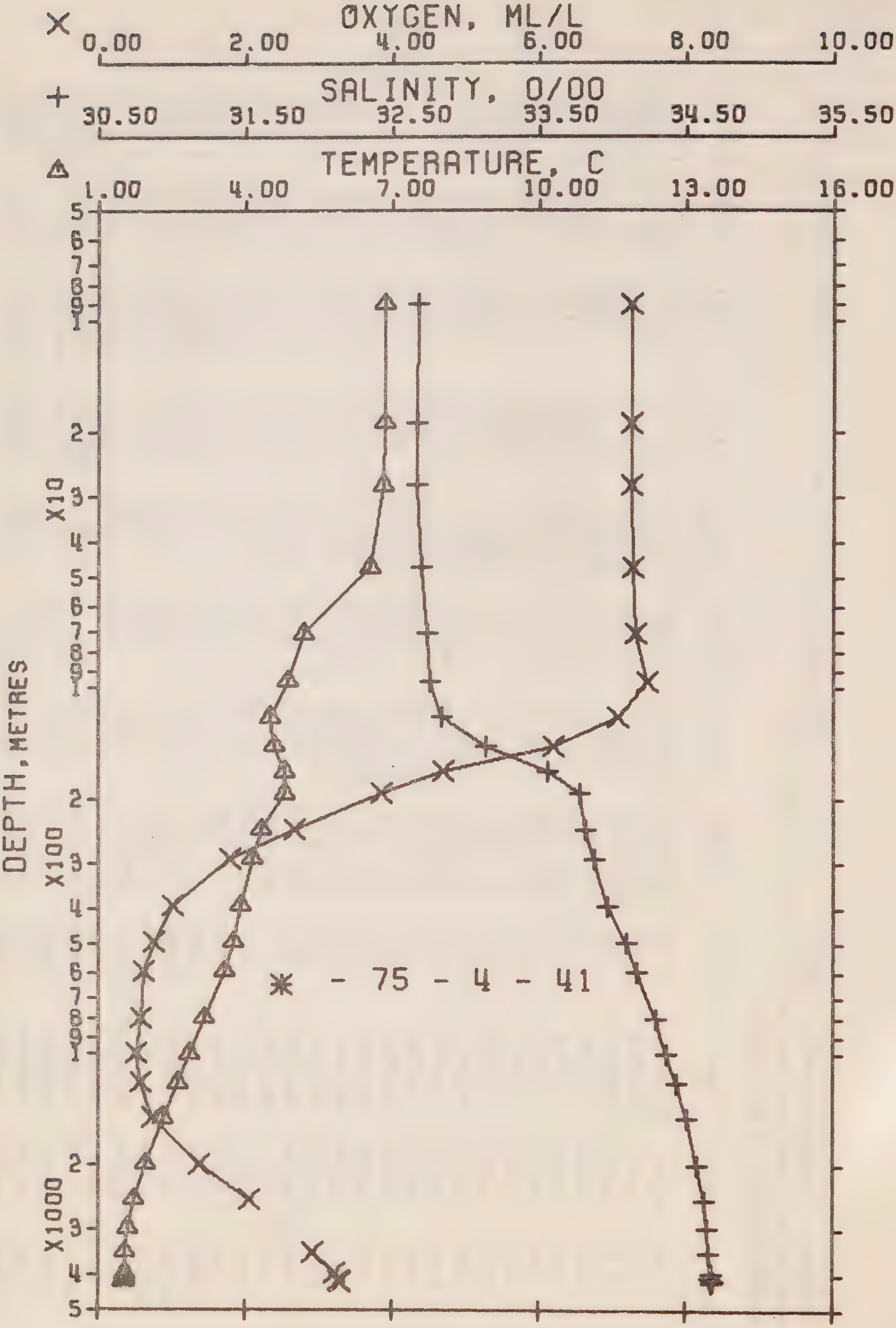
X100
X1000
* - 75 - 4 - 35

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 4- 35 DATE 6/ 6/75
POSITION 50- 0.0 N. 145- 0.0 W GMT 18.7
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.54	32.705	0	25.698	230.5	6.54	230.3	0.0	0.0	7.23	1474.
9	6.51	32.702	9	25.700	230.4	6.51	230.1	0.21	0.01	7.20	1474.
19	6.51	32.705	19	25.702	230.4	6.51	229.9	0.44	0.04		1474.
28	6.50	32.704	28	25.702	230.4	6.50	229.8	0.65	0.09	7.33	1475.
48	6.48	32.704	48	25.705	230.5	6.48	229.6	1.11	0.28	7.23	1475.
72	5.20	32.742	72	25.890	213.0	5.19	212.0	1.65	0.60	7.29	1470.
97	4.66	32.777	96	25.977	204.9	4.65	203.7	2.16	1.04	7.36	1468.
122	4.31	32.824	121	26.051	197.9	4.30	196.7	2.66	1.61	7.41	1467.
147	4.39	33.118	146	26.276	176.8	4.38	175.3	3.14	2.25	6.26	1468.
172	4.78	33.658	171	26.662	140.7	4.77	138.7	3.54	2.90	4.33	1471.
197	4.60	33.790	196	26.786	129.1	4.59	126.9	3.87	3.54	3.61	1471.
248	4.29	33.840	246	26.859	122.5	4.27	119.9	4.50	4.96	2.40	1471.
299	4.12	33.891	297	26.917	117.4	4.10	114.3	5.12	6.68	1.93	1471.
402	3.83	33.994	399	27.029	107.5	3.80	103.7	6.27	10.82	1.15	1471.
504	3.67	34.110	500	27.137	98.0	3.63	93.4	7.32	15.64	0.82	1472.
604	3.54	34.158	599	27.188	93.7	3.50	88.6	8.28	21.05	0.70	1474.
791	3.18	34.291	784	27.328	81.3	3.13	75.2	9.91	32.67	0.52	1475.
996	2.87	34.376	986	27.424	73.0	2.80	66.0	11.48	46.94	0.49	1478.
1200	2.65	34.431	1188	27.487	67.7	2.57	59.9	12.92	63.02	0.59	1480.
1503	2.34	34.504	1487	27.572	60.4	2.24	51.8	14.85	89.70	0.81	1484.
2006	1.95	34.582	1982	27.665	52.3	1.81	42.7	17.66	139.89	1.34	1491.
2508	1.75	34.628	2474	27.718	48.3	1.57	37.5	20.16	197.52	2.02	1498.
3010	1.60	34.658	2966	27.753	45.7	1.38	33.9	22.51	263.52	2.56	1506.
3515	1.54	34.667	3460	27.764	45.6	1.27	32.5	24.81	339.93	2.93	1514.
4029	1.53	34.683	3961	27.778	45.7	1.20	30.8	27.13	429.31	3.21	1523.
4132	1.55	34.682	4062	27.776	46.4	1.21	30.9	27.61	449.20	3.25	1525.
4226	1.53	34.686	4153	27.780	46.1	1.18	30.5	28.04	467.68	3.31	1527.
4236	1.52	34.686	4163	27.781	45.9	1.17	30.4	28.09	469.72	3.32	1527.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DEPTH, METRES
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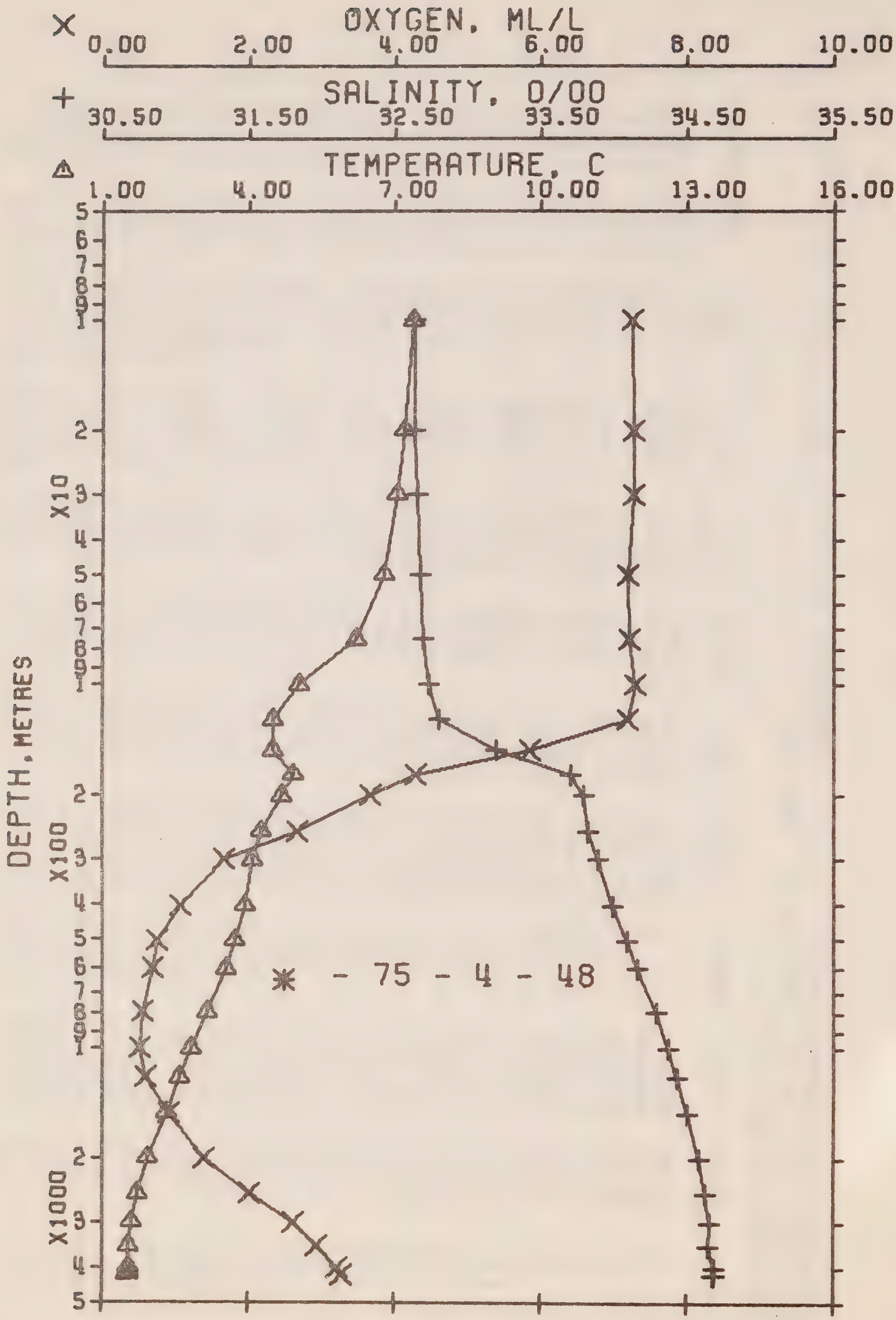
X100
X1000
* - 75 - 4 - 41

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 4- 41 DATE 12/ 6/75
POSITION 50- 0.0 N. 145- 0.0 W GMT 19.5
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.87	32.674	0	25.631	237.0	6.87	236.7	0.0	0.0	7.26	1475.
9	6.85	32.676	9	25.635	236.6	6.85	236.3	0.21	0.01	7.25	1476.
19	6.84	32.669	19	25.631	237.2	6.84	236.7	0.45	0.04	7.26	1476.
28	6.81	32.674	28	25.639	236.6	6.81	235.9	0.67	0.10	7.27	1476.
47	6.55	32.698	47	25.691	231.7	6.55	230.9	1.12	0.27	7.27	1475.
71	5.21	32.736	71	25.884	213.5	5.20	212.6	1.65	0.59	7.32	1470.
97	4.87	32.765	96	25.945	207.9	4.86	206.8	2.18	1.05	7.49	1469.
121	4.50	32.845	120	26.048	198.2	4.49	197.0	2.68	1.59	7.07	1468.
145	4.61	33.138	144	26.268	177.6	4.60	176.0	3.13	2.21	6.20	1469.
170	4.82	33.560	169	26.580	148.5	4.81	146.4	3.54	2.87	4.70	1471.
195	4.80	33.776	194	26.753	132.3	4.79	130.0	3.89	3.52	3.86	1472.
245	4.32	33.823	243	26.842	124.1	4.30	121.5	4.52	4.93	2.68	1471.
295	4.14	33.885	293	26.910	118.0	4.12	115.0	5.13	6.60	1.80	1471.
396	3.90	33.970	393	27.002	109.9	3.87	105.2	6.27	10.65	1.02	1472.
498	3.75	34.099	494	27.120	99.6	3.71	95.0	7.34	15.51	0.76	1473.
599	3.57	34.175	594	27.198	92.7	3.53	87.6	8.31	20.93	0.61	1474.
804	3.17	34.299	797	27.335	80.7	3.11	74.5	10.08	33.58	0.58	1476.
1010	2.87	34.370	1000	27.419	73.6	2.80	66.4	11.66	48.19	0.51	1478.
1213	2.62	34.438	1201	27.495	66.9	2.54	59.1	13.09	64.37	0.58	1480.
1520	2.32	34.507	1503	27.576	60.0	2.22	51.4	15.02	91.32	0.73	1484.
2027	1.95	34.585	2002	27.668	52.2	1.81	42.4	17.84	142.27	1.38	1491.
2532	1.73	34.631	2498	27.721	47.8	1.55	37.1	20.35	200.54	2.05	1499.
3036	1.60	34.655	2992	27.750	46.0	1.37	34.1	22.70	267.20		1507.
3543	1.54	34.656	3487	27.756	46.5	1.27	33.3	25.03	345.63	2.93	1515.
4051	1.53	34.680	3983	27.776	46.0	1.20	31.0	27.36	435.61	3.22	1524.
4154	1.55	34.674	4083	27.769	47.0	1.21	31.6	27.84	455.62		1526.
4246	1.53	34.686	4173	27.780	46.1	1.18	30.5	28.27	473.99	3.29	1527.
4256	1.52	34.682	4183	27.778	46.2	1.17	30.6	28.32	476.05	3.30	1527.



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DEPTH, METRES
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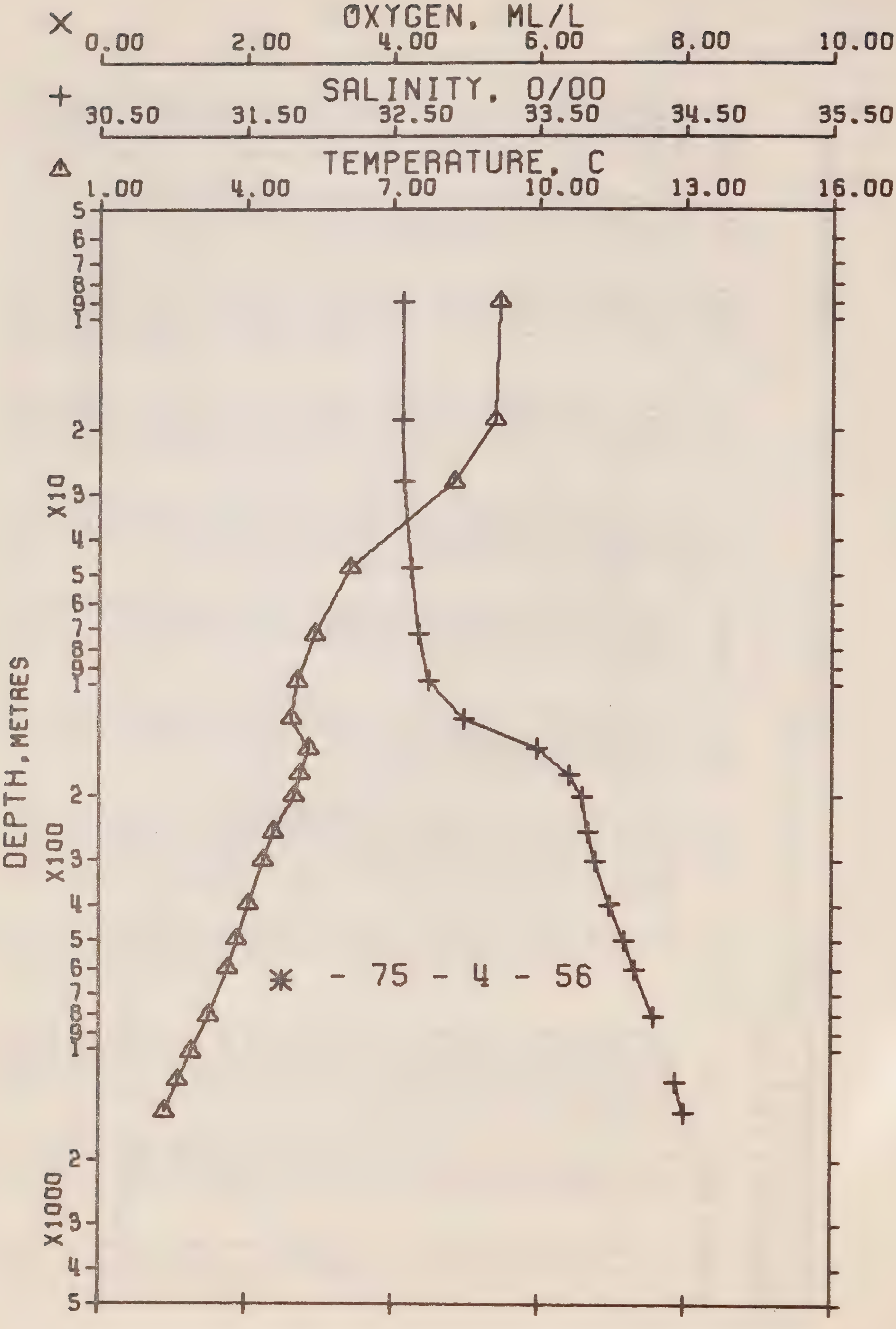
X100
X1000
* - 75 - 4 - 48

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 4- 48 DATE 18/ 6/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 19.0
HYDROGRAPHIC CAST DATA

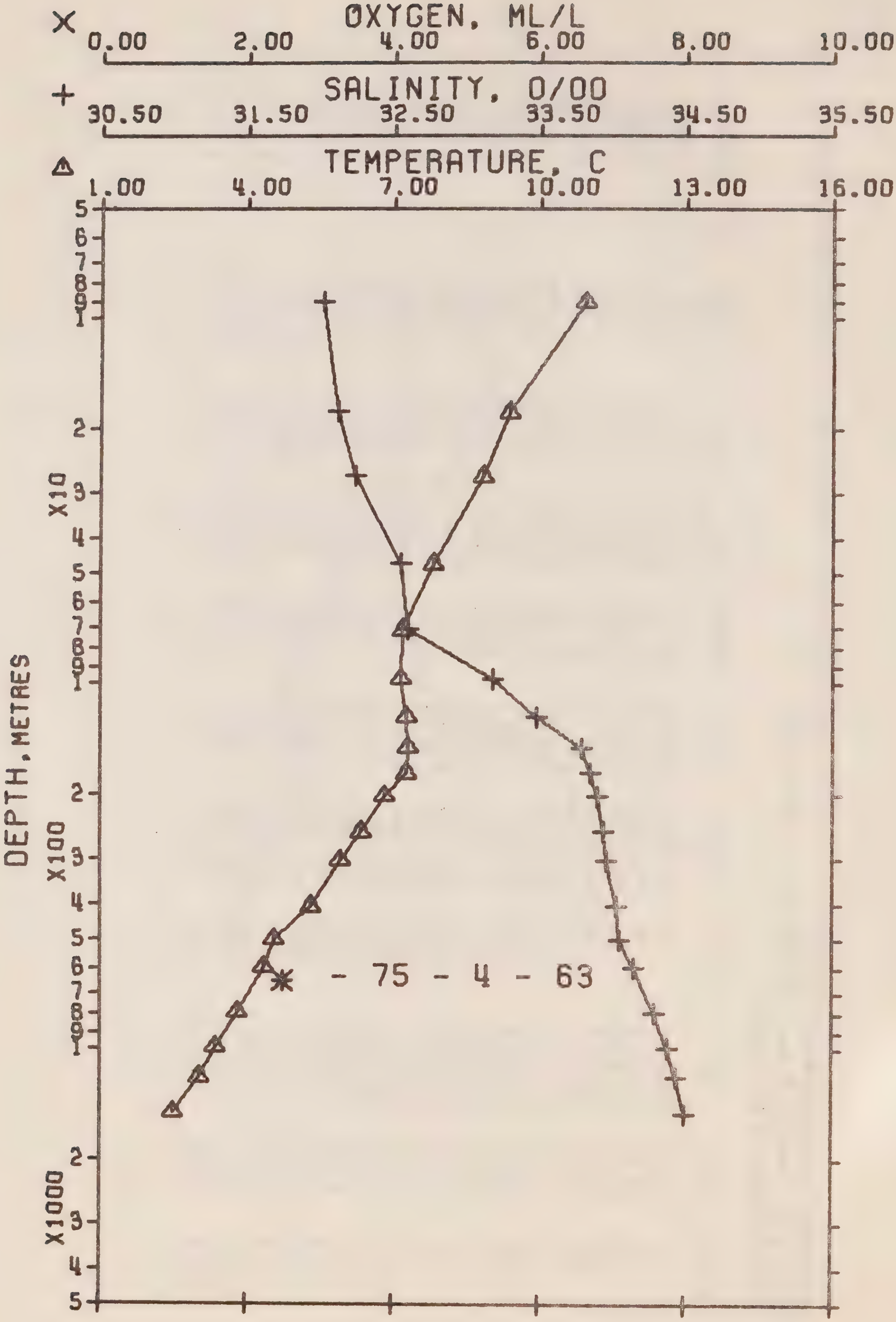
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	7.65	32.642	0	25.499	249.5	7.65	249.2	0.0	0.0	7.25	1479.
10	7.38	32.642	10	25.536	246.1	7.38	245.7	0.25	0.01	7.26	1478.
20	7.21	32.644	20	25.561	243.8	7.21	243.3	0.50	0.05	7.28	1477.
30	7.05	32.659	30	25.595	240.7	7.05	240.1	0.74	0.11	7.27	1477.
50	6.79	32.678	50	25.644	236.3	6.79	235.4	1.22	0.31	7.19	1476.
75	6.23	32.704	75	25.737	227.8	6.22	226.6	1.81	0.69	7.23	1474.
101	5.05	32.741	100	25.906	211.7	5.04	210.5	2.36	1.18	7.29	1470.
126	4.50	32.811	125	26.021	200.8	4.49	199.5	2.88	1.78	7.21	1468.
152	4.51	33.203	151	26.331	171.8	4.50	170.1	3.37	2.48	5.86	1469.
177	4.93	33.712	176	26.688	138.4	4.92	136.2	3.76	3.13	4.30	1472.
202	4.68	33.801	201	26.786	129.2	4.66	125.9	4.09	3.77	3.67	1471.
254	4.28	33.834	252	26.855	123.0	4.26	120.3	4.74	5.27	2.68	1471.
304	4.10	33.902	302	26.928	116.3	4.08	113.3	5.34	6.99	1.69	1471.
406	3.95	34.002	403	27.023	108.2	3.92	104.3	6.48	11.12	1.08	1472.
507	3.74	34.099	503	27.121	99.5	3.70	94.9	7.53	16.00	0.76	1473.
607	3.56	34.174	602	27.198	92.8	3.52	87.6	8.49	21.45	0.70	1474.
802	3.15	34.298	795	27.336	80.6	3.09	74.4	10.17	33.55	0.55	1475.
1008	2.84	34.385	998	27.434	72.1	2.77	65.1	11.73	47.93	0.52	1478.
1213	2.60	34.438	1201	27.497	66.7	2.52	59.0	13.15	64.04	0.61	1480.
1521	2.31	34.511	1504	27.580	59.6	2.21	51.0	15.09	91.00	0.92	1484.
2032	1.92	34.587	2007	27.672	51.7	1.78	42.0	17.91	141.99	1.39	1491.
2541	1.73	34.632	2507	27.722	47.9	1.55	37.1	20.42	200.71	2.02	1499.
3049	1.59	34.658	3004	27.754	45.7	1.36	33.8	22.78	267.83	2.61	1507.
3556	1.53	34.653	3500	27.754	46.5	1.25	33.5	25.11	346.56	2.93	1515.
4062	1.53	34.686	3994	27.780	45.6	1.20	30.6	27.40	435.22	3.23	1524.
4164	1.55	34.669*	4093	27.766	47.3	1.21	31.9	27.88	455.09		1526.
4255	1.53	34.680	4182	27.776	46.6	1.18	30.9	28.31	473.75	3.27	1527.
4266	1.52	34.686	4192	27.781	46.0	1.17	30.4	28.36	475.81	3.29	1527.



X OXYGEN, ML/L
0.00 2.00 4.00 6.00 8.00 10.00
+ SALINITY, 0/00
30.50 31.50 32.50 33.50 34.50 35.50
△ TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 4 - 56

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 4- 56 DATE 24/ 6/75
POSITION 49-34.0 N. 138-40.0 W GMT 1.0
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	9.23	32.573	0	25.208	277.1	9.23	276.9	0.0	0.0		1484.
9	9.20	32.572	9	25.212	276.9	9.20	276.6	0.25	0.01		1484.
19	9.09	32.574	19	25.231	275.3	9.09	274.7	0.53	0.05		1484.
28	8.27	32.577	28	25.358	263.3	8.27	262.6	0.77	0.11		1481.
48	6.13	32.629	48	25.690	231.8	6.13	231.0	1.27	0.30		1473.
73	5.42	32.676	73	25.812	220.4	5.41	219.3	1.83	0.65		1471.
99	5.05	32.755	98	25.917	210.7	5.04	209.5	2.38	1.13		1470.
125	4.94	32.988	124	26.114	192.2	4.93	190.7	2.91	1.74		1470.
151	5.28	33.487	150	26.469	158.9	5.27	156.9	3.37	2.38		1473.
177	5.12	33.709	176	26.664	140.8	5.11	138.5	3.76	3.03		1473.
203	4.99	33.799	202	26.750	132.8	4.97	130.3	4.11	3.72		1473.
256	4.58	33.841	254	26.829	125.7	4.56	122.7	4.79	5.30		1472.
306	4.36	33.892	304	26.893	119.9	4.34	116.7	5.41	7.07		1472.
402	4.07	33.992	399	27.003	110.1	4.04	106.2	6.51	11.05		1472.
503	3.83	34.087	499	27.102	101.4	3.79	95.7	7.57	15.96		1473.
606	3.63	34.160	601	27.180	94.6	3.59	89.2	8.58	21.66		1474.
817	3.25	34.293	810	27.323	82.2	3.19	75.6	10.44	35.15		1476.
1028	2.89	34.381*	1018	27.426	73.0	2.82	65.8	12.06	50.44		1478.
1230	2.63	34.440	1217	27.496	67.0	2.55	59.0	13.47	66.63		1480.
1503	2.34	34.504	1487	27.572	60.4	2.24	51.8	15.21	90.83		1484.



X OXYGEN, ML/L
0.00 2.00 4.00 6.00 8.00 10.00
+ SALINITY, 0/00
30.50 31.50 32.50 33.50 34.50 35.50
Δ TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
5 6 7 8 9 1 2 3 4 5 6 7 8 9 1 2 3 4 5 6 7 8 9 1 2 3 4 5
* - 75 - 4 - 63

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 4- 63 DATE 25/ 6/75
POSITION 48-46.0 N, 127-40.0 W GMT 19.0
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	11.02	32.024	0	24.482	346.2	11.02	346.0	0.0	0.0		1490.
9	10.92	32.025	9	24.500	344.7	10.92	344.3	0.31	0.01		1490.
18	9.38	32.121	18	24.832	313.3	9.38	312.7	0.61	0.06		1485.
27	8.84	32.242	27	25.010	296.4	8.84	295.7	0.89	0.12		1483.
47	7.80	32.550	47	25.405	259.1	7.80	258.1	1.44	0.33		1480.
71	7.18	32.601	71	25.532	247.4	7.17	246.1	2.05	0.70		1478.
98	7.14	33.183	97	25.994	203.8	7.13	202.0	2.64	1.21		1479.
124	7.27	33.477	123	26.207	184.0	7.26	181.8	3.15	1.78		1480.
150	7.29	33.787	149	26.448	161.6	7.28	158.9	3.60	2.40		1481.
176	7.28	33.853	175	26.501	157.0	7.26	153.9	4.01	3.10		1482.
203	6.82	33.903	202	26.604	147.4	6.80	144.1	4.43	3.90		1480.
256	6.35	33.944	254	26.698	139.0	6.33	135.0	5.17	5.64		1479.
306	5.91	33.958	304	26.765	133.1	5.88	128.6	5.86	7.61		1478.
409	5.32	34.029	406	26.893	121.8	5.29	116.5	7.17	12.38		1478.
504	4.58	34.053	500	26.997	112.3	4.54	106.6	8.28	17.55		1476.
600	4.35	34.149	595	27.098	103.4	4.30	97.0	9.31	23.36		1477.
797	3.81	34.291	790	27.267	88.3	3.75	80.9	11.19	36.71		1478.
997	3.38	34.378	988	27.378	78.6	3.31	70.2	12.85	51.92		1480.
1201	3.03	34.443	1189	27.463	71.1	2.94	62.2	14.37	68.94		1482.
1506	2.51	34.498	1490	27.552	62.9	2.41	53.5	16.41	96.98		1485.

RESULTS OF STP OBSERVATIONS

(P-75-4)

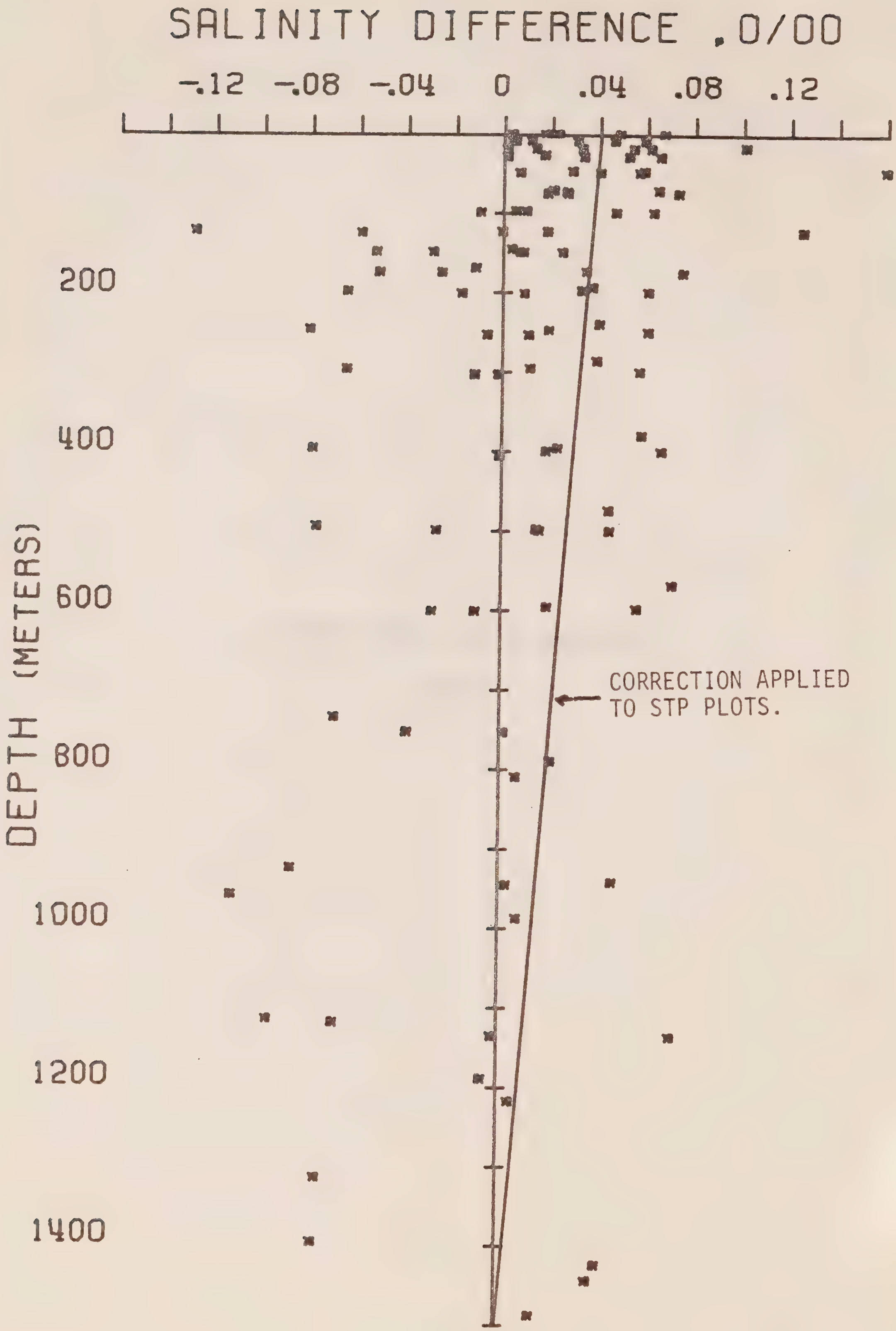


Figure 8. Salinity difference between hydro data and STP. P-75-4

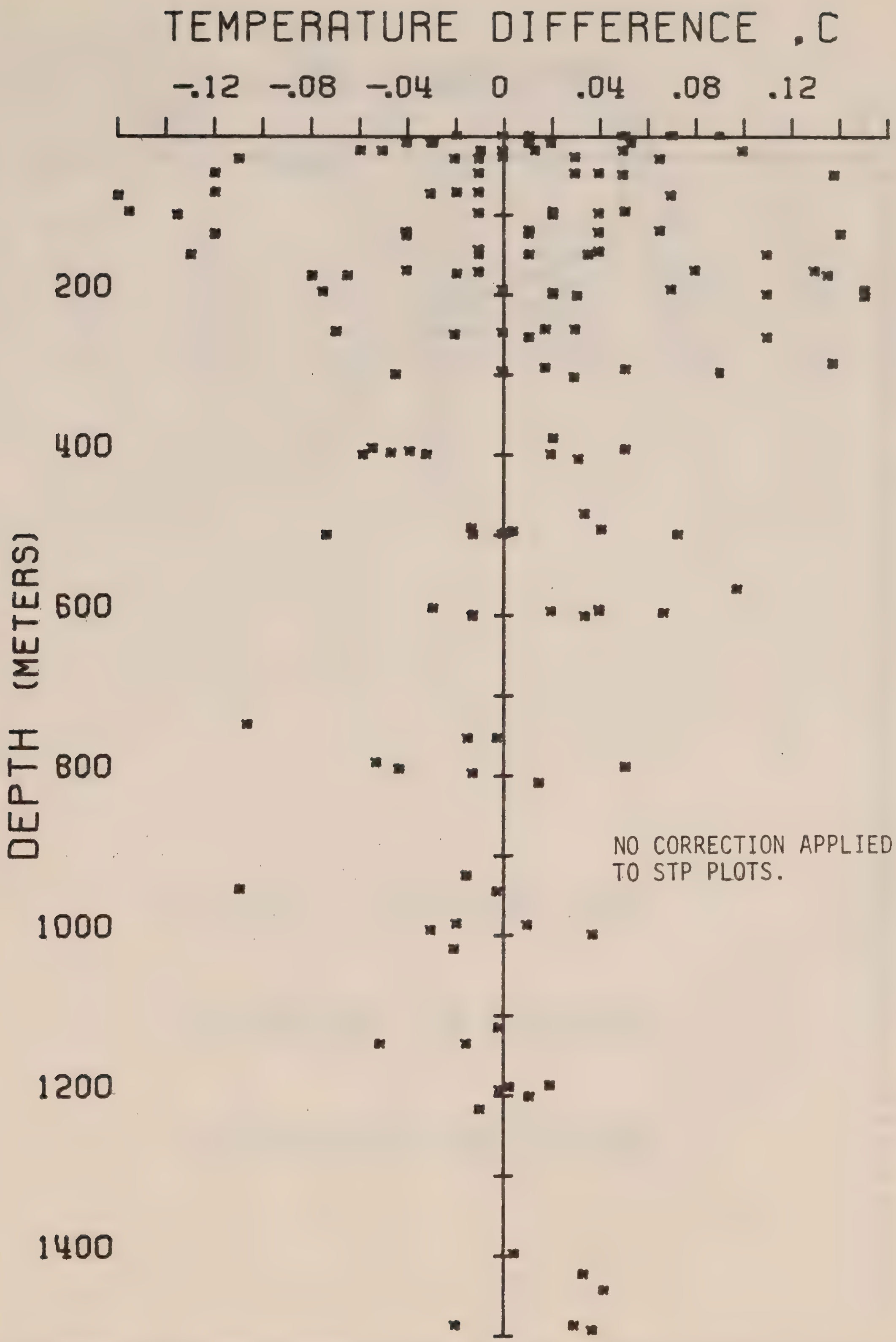
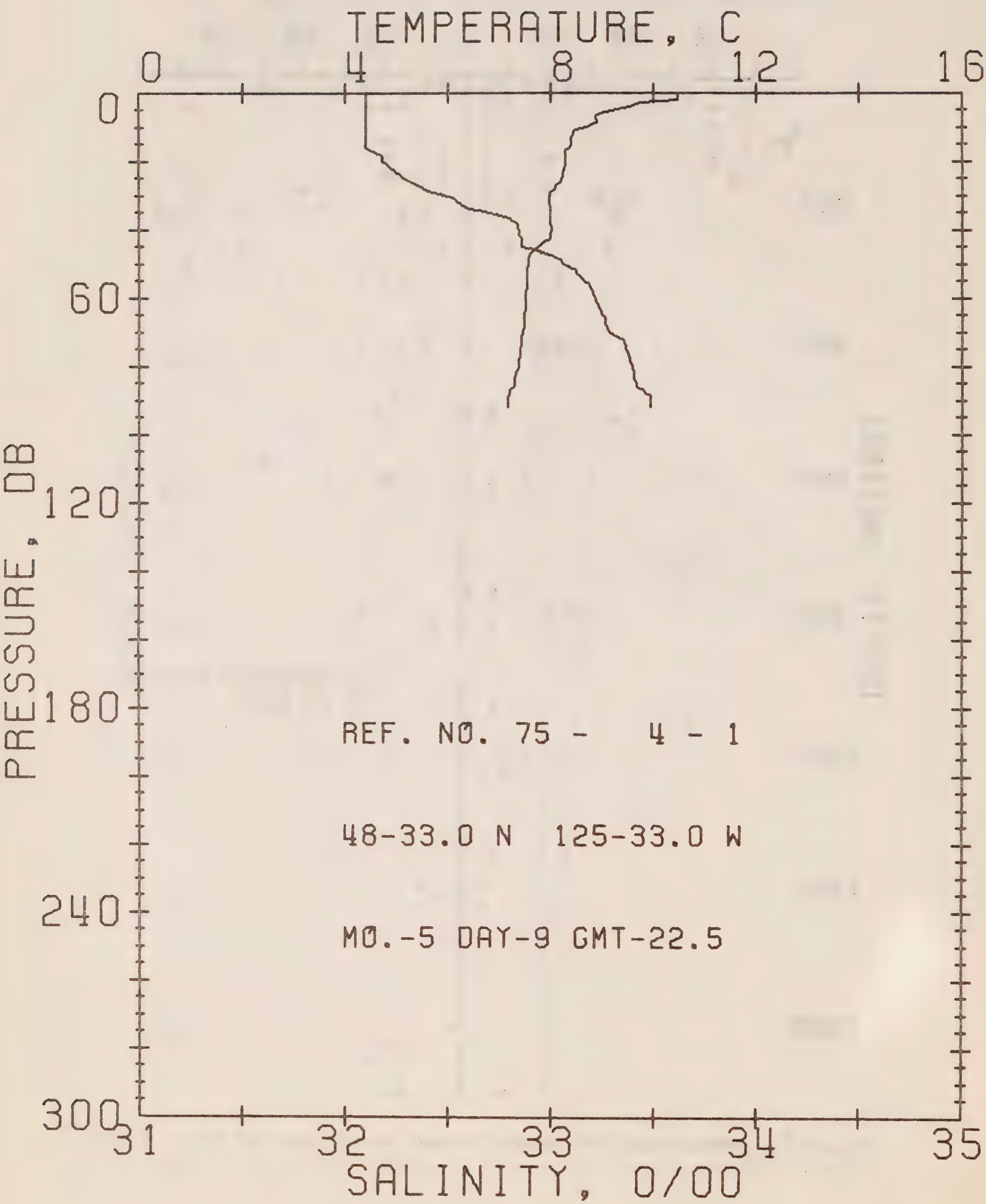
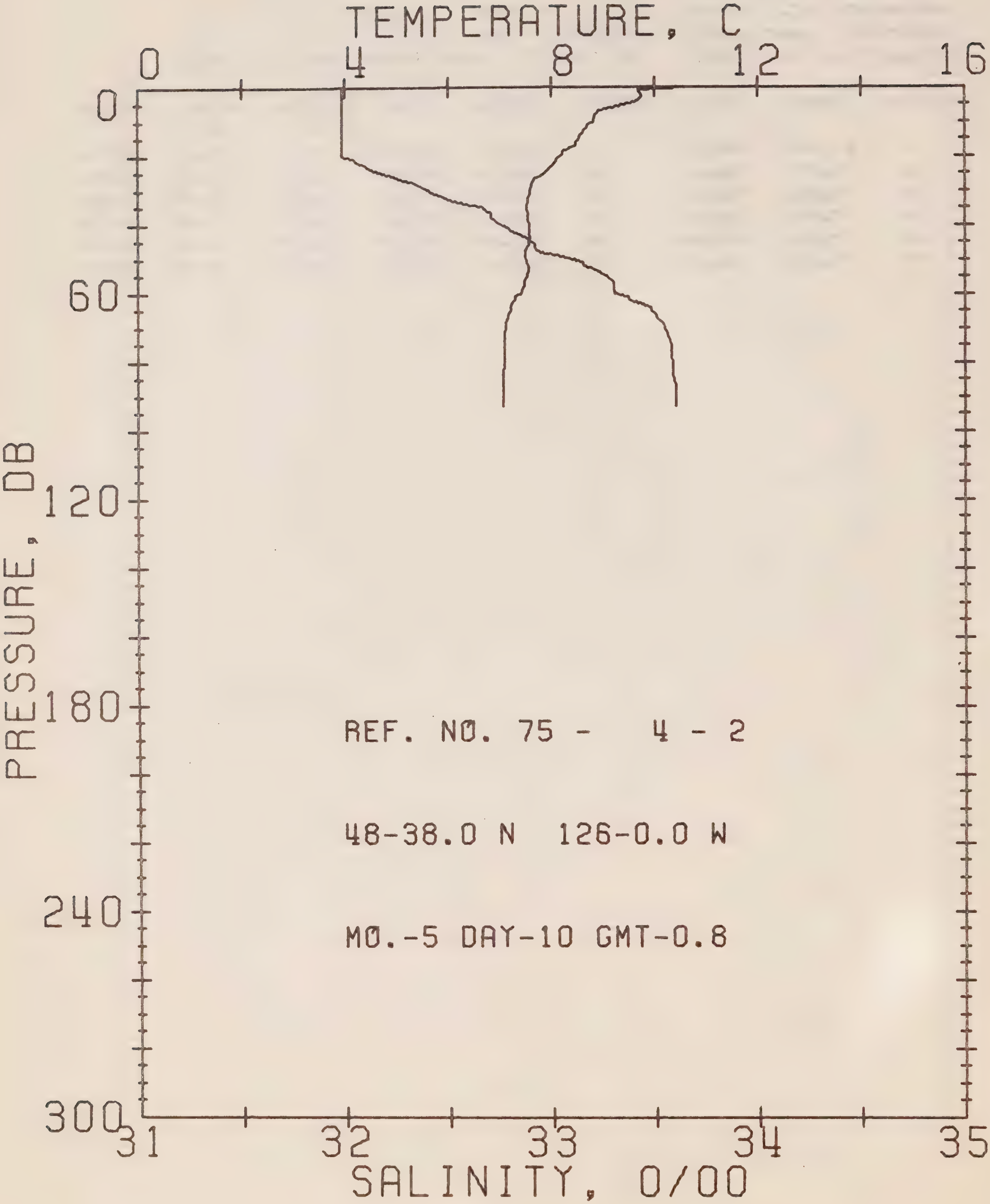


Figure 9. Temperature difference between hydro data and STP. P-75-4


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 1
48-33.0 N 125-33.0 W
MO.-5 DAY-9 GMT-22.5
31
32
33
34
35
SALINITY, 0/00

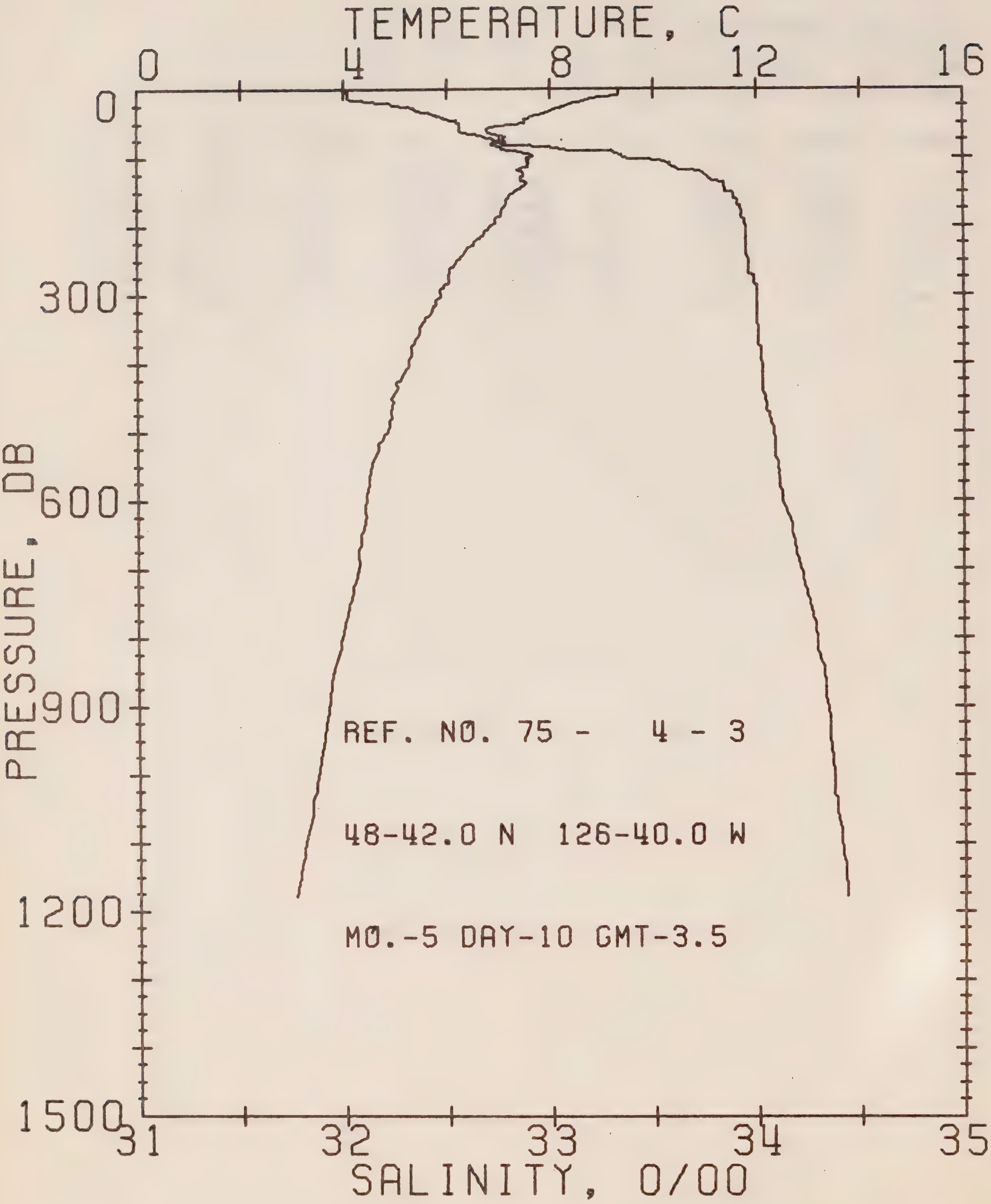
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 1 DATE 9/ 5/75
POSITION 48-33.0N, 125-33.0W GMT 22.5
RESULTS OF STP CAST 83 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.49	32.10	0	24.63	331.7	0.0	0.0	1488.
10	8.71	32.10	10	24.92	304.8	0.32	0.02	1482.
20	8.29	32.18	20	25.04	293.0	0.61	0.06	1481.
30	7.98	32.48	30	25.32	266.5	0.90	0.13	1480.
50	7.56	33.06	50	25.84	217.8	1.38	0.33	1480.
75	7.42	33.37	75	26.10	193.2	1.89	0.65	1480.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 2
48-38.0 N 126-0.0 W
MO.-5 DAY-10 GMT-0.8
31
32
33
34
35
SALINITY, 0/00

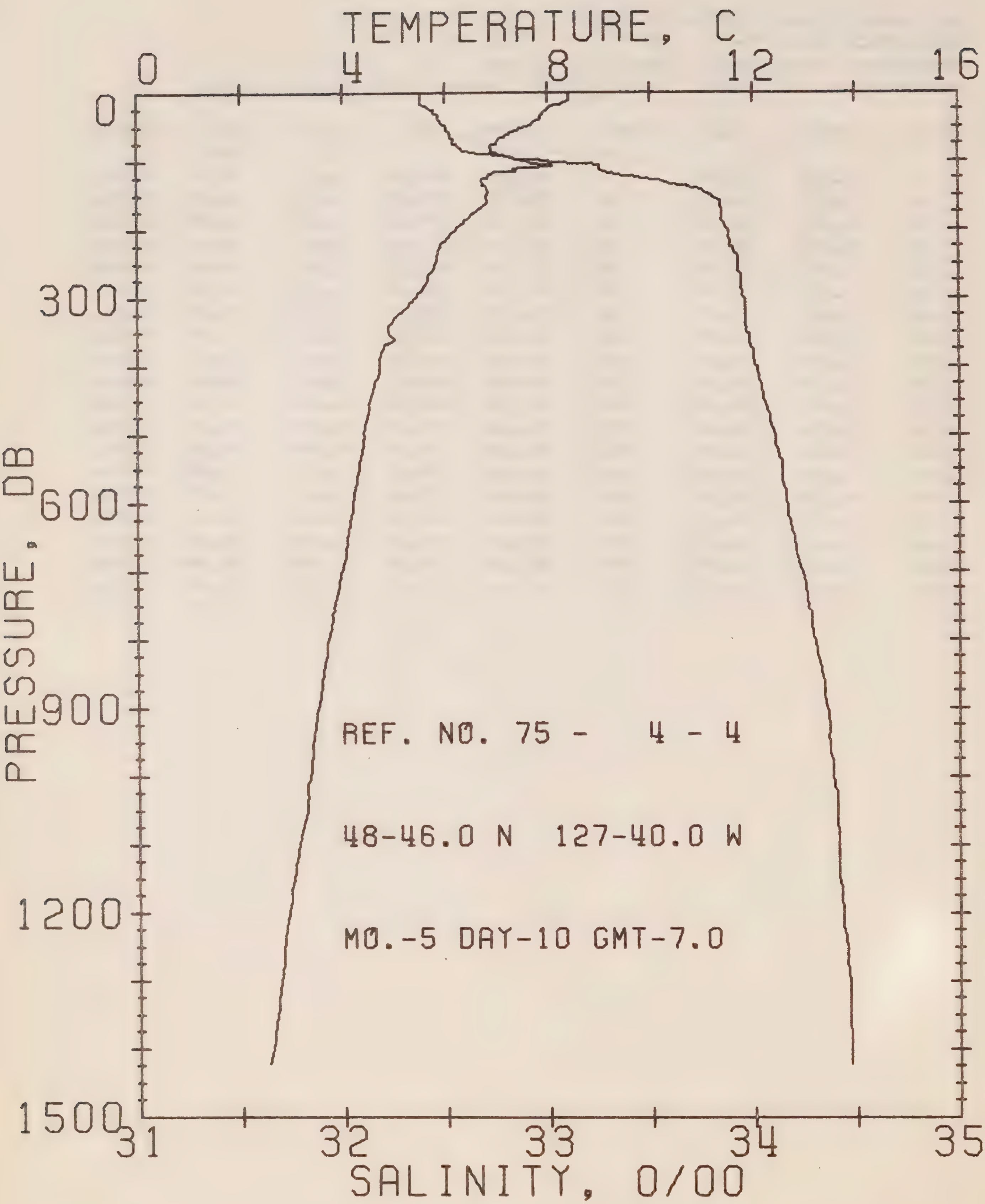
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 2 DATE 10/ 5/75
POSITION 48-38.0N, 126- 0.0W GMT 0.8
RESULTS OF STP CAST 76 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.62	31.99	0	24.52	341.9	0.0	0.0	1489.
10	8.82	31.99	10	24.82	314.6	0.32	0.02	1482.
20	8.19	31.99	20	24.91	305.7	0.63	0.06	1480.
30	7.60	32.41	30	25.32	266.6	0.92	0.14	1478.
50	7.50	33.11	50	25.89	213.3	1.40	0.33	1479.
75	7.09	33.58	75	26.31	173.2	1.87	0.63	1479.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
300
600
900
1200
1500
REF. NO. 75 - 4 - 3
48-42.0 N 126-40.0 W
MO.-5 DAY-10 GMT-3.5
31
32
33
34
35
SALINITY, 0/00

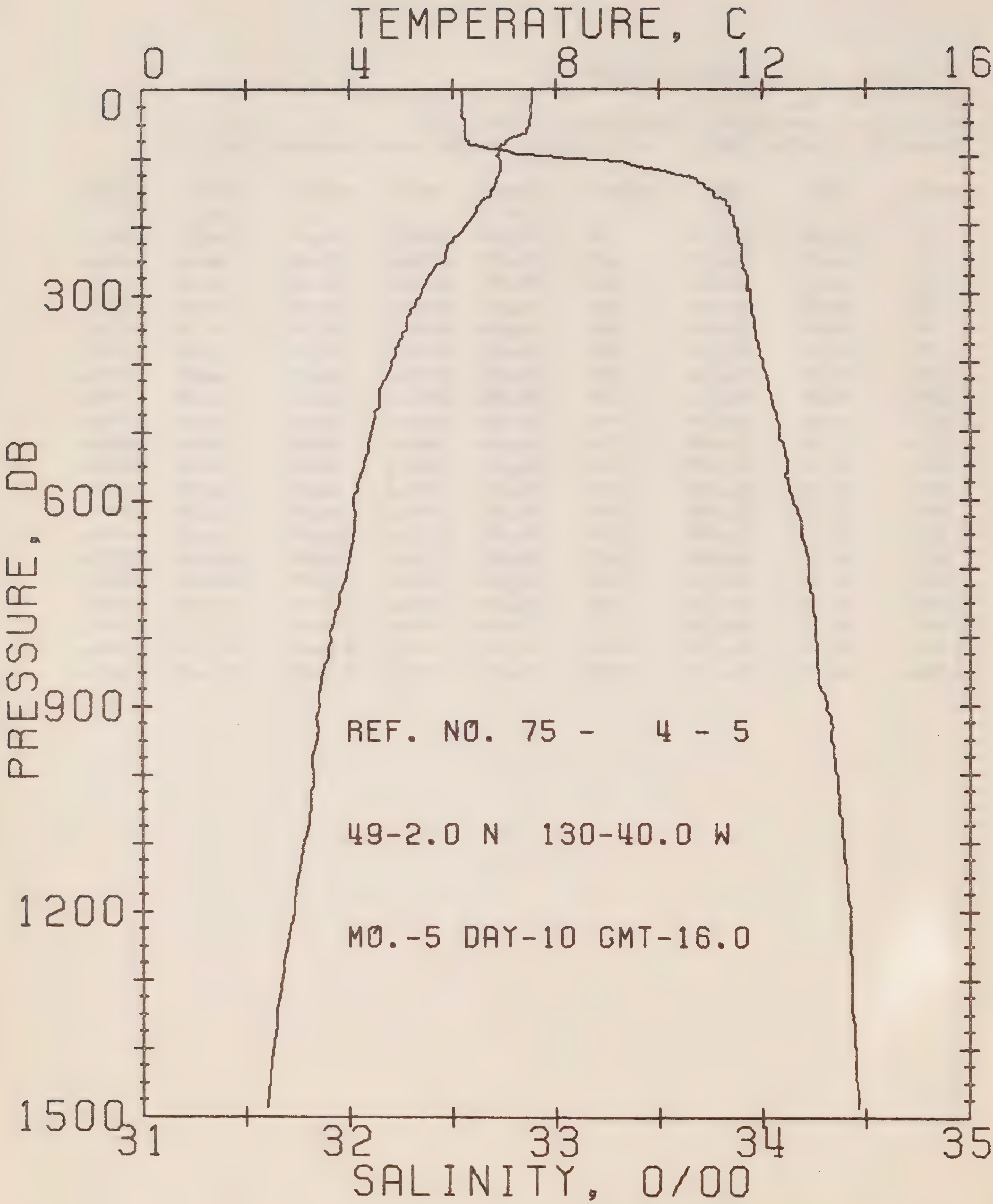
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 3 DATE 10/ 5/75
POSITION 48-42.0N, 126-40.0W GMT 3.5
RESULTS OF STP CAST 335 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.33	32.00	0	24.75	320.9	0.0	0.0	1484.
10	9.31	32.02	10	24.76	319.6	0.32	0.02	1484.
20	8.57	32.18	20	25.00	297.0	0.63	0.06	1482.
30	8.12	32.34	30	25.19	278.9	0.92	0.14	1480.
50	7.50	32.55	50	25.45	255.1	1.45	0.35	1479.
75	7.06	32.74	75	25.66	235.4	2.06	0.74	1478.
100	7.61	33.36	99	26.07	197.0	2.59	1.22	1481.
125	7.48	33.75	124	26.39	166.6	3.04	1.73	1481.
150	7.32	33.85	149	26.49	157.3	3.45	2.29	1481.
175	7.07	33.92	174	26.58	149.1	3.82	2.92	1481.
200	6.86	33.95	199	26.64	144.4	4.19	3.62	1480.
225	6.52	33.95	223	26.68	140.4	4.55	4.39	1479.
250	6.19	33.96	248	26.73	135.7	4.89	5.23	1479.
300	5.88	34.00	298	26.80	129.6	5.56	7.08	1478.
400	5.24	34.03	397	26.90	121.0	6.80	11.53	1477.
500	4.83	34.08	496	26.99	113.1	7.98	16.90	1477.
600	4.43	34.12	595	27.07	106.4	9.07	23.00	1477.
800	3.96	34.29	793	27.25	90.1	11.03	36.96	1479.
1000	3.47	34.37	991	27.36	80.2	12.72	52.45	1480.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
300
600
900
1200
1500
REF. NO. 75 - 4 - 4
48-46.0 N 127-40.0 W
MO.-5 DAY-10 GMT-7.0
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 4 DATE 10/ 5/75
POSITION 48-46.0N, 127-40.0W GMT 7.0
RESULTS OF STP CAST 363 POINTS TAKEN FROM ANALOG TRACE

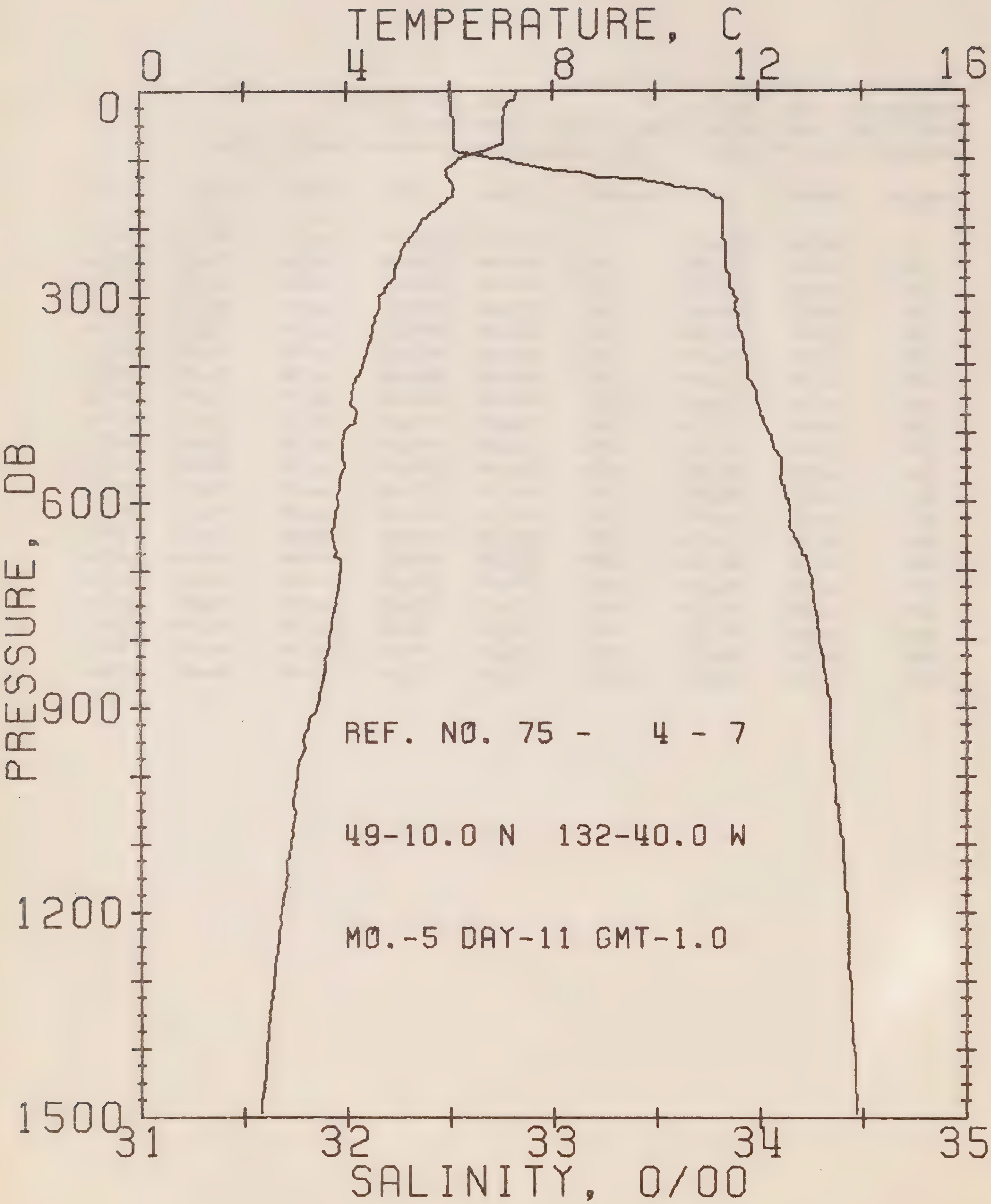
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.44	32.38	0	25.18	279.7	0.0	0.0	1481.
10	8.43	32.38	10	25.18	279.9	0.28	0.01	1481.
20	8.11	32.41	20	25.25	273.4	0.56	0.06	1480.
30	7.93	32.45	30	25.31	268.1	0.83	0.13	1480.
50	7.61	32.50	50	25.39	260.2	1.36	0.34	1479.
75	7.00	32.54	75	25.51	249.5	1.99	0.74	1477.
100	7.52	33.01	99	25.81	221.8	2.59	1.28	1480.
125	6.82	33.46	124	26.26	179.4	3.10	1.86	1478.
150	6.82	33.79	149	26.51	155.1	3.51	2.43	1479.
175	6.60	33.85	174	26.59	148.1	3.89	3.06	1479.
200	6.22	33.87	199	26.66	141.9	4.25	3.75	1478.
225	5.92	33.89	223	26.71	137.2	4.60	4.51	1477.
250	5.81	33.93	248	26.76	133.2	4.94	5.32	1477.
300	5.44	33.95	298	26.82	127.6	5.59	7.15	1476.
400	4.72	34.02	397	26.95	115.5	6.80	11.46	1475.
500	4.42	34.10	496	27.06	106.5	7.91	16.54	1476.
600	4.20	34.16	595	27.12	100.6	8.94	22.33	1476.
800	3.71	34.29	793	27.28	86.9	10.82	35.65	1478.
1000	3.33	34.38	991	27.38	77.8	12.44	50.56	1480.
1200	2.89	34.43	1188	27.46	70.5	13.93	67.16	1481.



TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 5
49-2.0 N 130-40.0 W
MO.-5 DAY-10 GMT-16.0
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 5 DATE 10/ 5/75
POSITION 49- 2.0N, 130-40.0W GMT 16.0
RESULTS OF STP CAST 369 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.54	32.54	0	25.43	255.4	0.0	0.0	1478.
10	7.54	32.55	10	25.44	255.1	0.26	0.01	1478.
20	7.54	32.55	20	25.44	255.1	0.51	0.05	1478.
30	7.53	32.55	30	25.44	255.1	0.77	0.12	1478.
50	7.49	32.56	50	25.46	254.2	1.28	0.32	1479.
75	7.07	32.57	75	25.52	248.3	1.91	0.73	1477.
100	6.90	33.02	99	25.90	212.8	2.50	1.25	1478.
125	6.91	33.58	124	26.34	171.8	2.97	1.79	1479.
150	6.75	33.76	149	26.50	156.5	3.37	2.36	1479.
175	6.49	33.85	174	26.61	146.7	3.75	2.99	1478.
200	6.26	33.87	199	26.65	142.6	4.12	3.68	1478.
225	5.97	33.89	223	26.70	137.8	4.47	4.44	1477.
250	5.85	33.90	248	26.73	136.0	4.81	5.26	1477.
300	5.39	33.94	298	26.81	128.0	5.46	7.10	1476.
400	4.84	34.00	397	26.93	118.1	6.69	11.48	1476.
500	4.44	34.08	496	27.03	108.6	7.82	16.65	1476.
600	4.07	34.14	595	27.12	100.7	8.87	22.51	1476.
800	3.65	34.25	793	27.25	89.6	10.76	35.97	1477.
1000	3.31	34.36	990	27.37	79.4	12.44	51.34	1479.
1200	2.92	34.42	1188	27.45	71.6	13.95	68.26	1481.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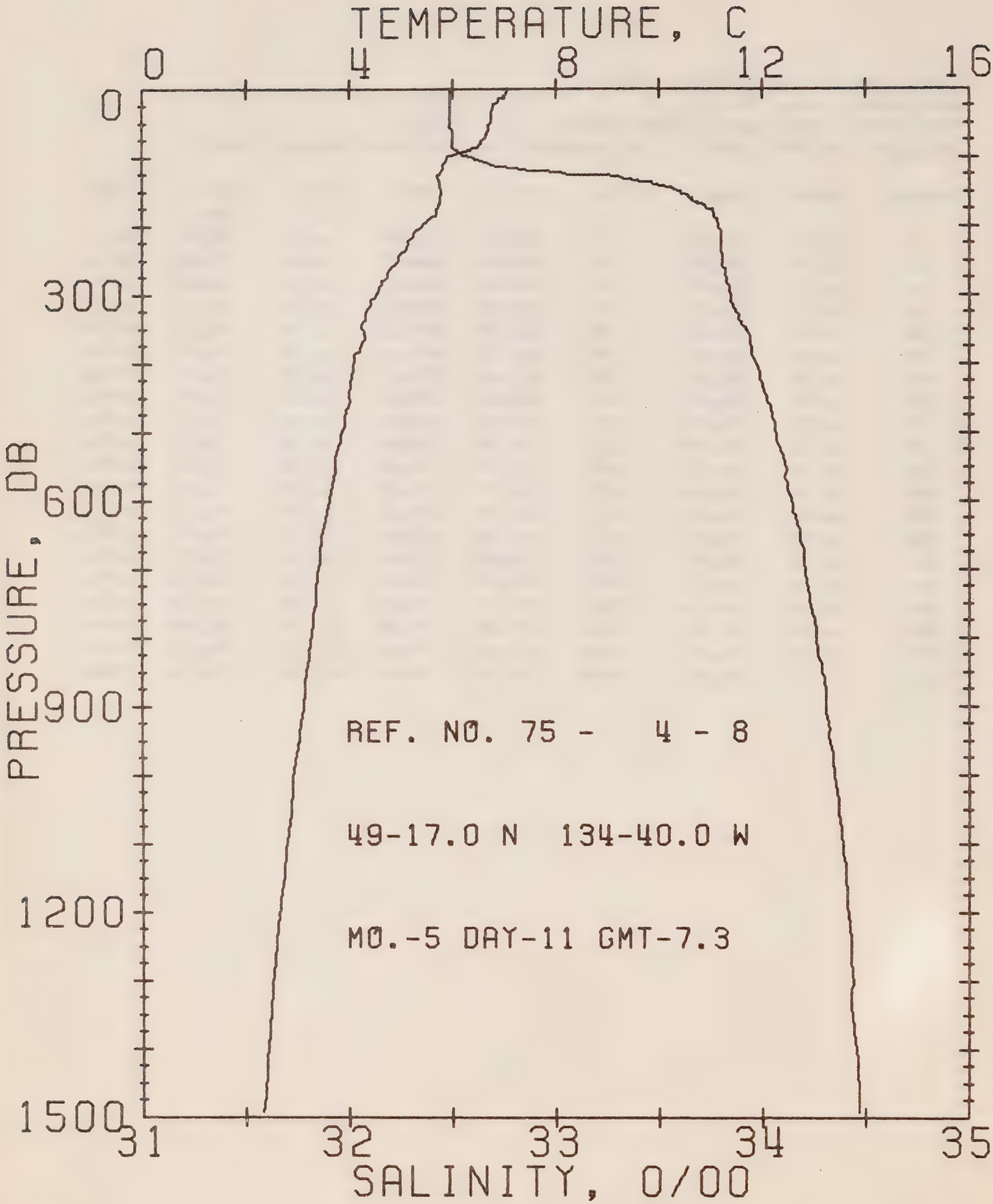
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 7
49-10.0 N 132-40.0 W
MO.-5 DAY-11 GMT-1.0
31
32
33
34
35
SALINITY, 0/00

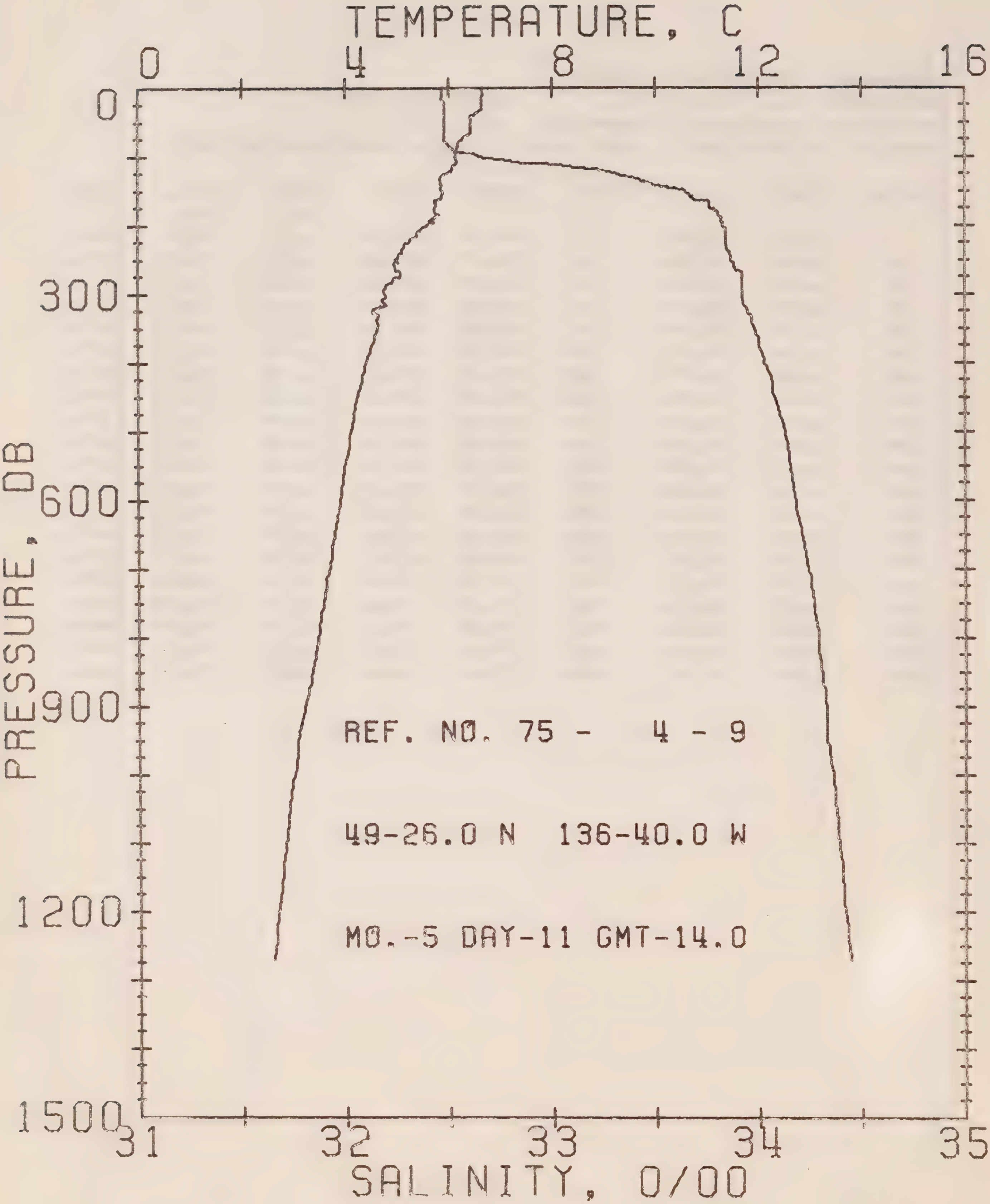
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 7 DATE 11/ 5/75
POSITION 49-10.0N, 132-40.0W GMT 1.0
RESULTS OF STP CAST 379 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	FCT. EN	SOUND
0	7.32	32.50	0	25.43	255.5	0.0	0.0	1477.
10	7.29	32.51	10	25.45	254.7	0.26	0.01	1477.
20	7.11	32.51	20	25.47	252.5	0.51	0.05	1477.
30	7.07	32.51	30	25.48	252.1	0.76	0.12	1477.
50	7.04	32.52	50	25.49	251.3	1.26	0.32	1477.
75	7.03	32.52	75	25.49	251.4	1.89	0.72	1477.
100	6.15	32.78	99	25.81	221.3	2.50	1.26	1474.
125	5.95	33.21	124	26.17	187.1	3.01	1.85	1475.
150	6.06	33.76	149	26.59	147.4	3.42	2.41	1476.
175	5.71	33.83	174	26.69	138.5	3.77	3.00	1475.
200	5.38	33.83	199	26.73	135.0	4.11	3.65	1474.
225	5.13	33.84	223	26.77	131.5	4.45	4.38	1474.
250	4.99	33.84	248	26.78	130.2	4.77	5.17	1473.
300	4.65	33.88	298	26.85	123.7	5.41	6.96	1473.
400	4.31	33.95	397	26.94	115.9	6.62	11.24	1473.
500	3.95	34.05	496	27.06	105.4	7.73	16.34	1474.
600	3.84	34.14	595	27.14	98.3	8.74	22.03	1475.
800	3.66	34.29	793	27.28	86.8	10.59	35.16	1478.
1000	3.03	34.36	990	27.40	76.0	12.21	50.01	1478.
1200	2.71	34.42	1188	27.48	68.9	13.66	66.24	1480.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 8
49-17.0 N 134-40.0 W
MO.-5 DAY-11 GMT-7.3
31
32
33
34
35
SALINITY, 0/00

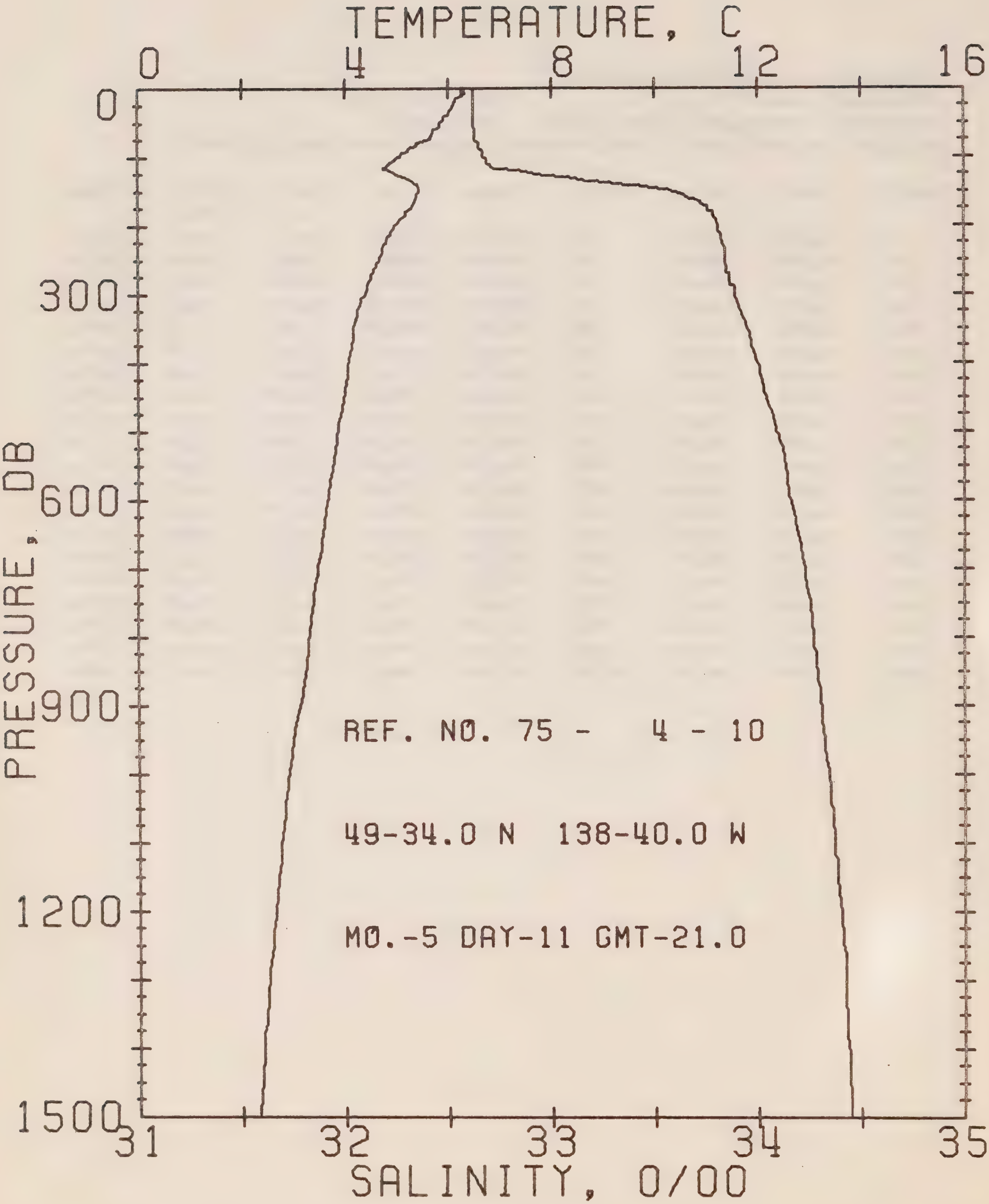
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 8 DATE 11/ 5/75
POSITION 49-17.0N, 134-40.0W GMT 7.3
RESULTS OF STP CAST 295 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	FCT. EN	SOUND
0	7.06	32.49	0	25.46	252.9	0.0	0.0	1476.
10	7.01	32.49	10	25.47	252.6	0.25	0.01	1476.
20	6.86	32.49	20	25.49	250.8	0.50	0.05	1476.
30	6.77	32.49	30	25.50	249.8	0.75	0.12	1475.
50	6.72	32.49	50	25.51	249.5	1.25	0.32	1475.
75	6.58	32.50	75	25.53	247.3	1.88	0.71	1475.
100	5.90	32.59	99	25.69	232.6	2.48	1.26	1473.
125	5.74	33.06	124	26.08	195.9	3.03	1.88	1473.
150	5.78	33.59	149	26.50	156.6	3.45	2.47	1475.
175	5.69	33.74	174	26.62	145.0	3.83	3.10	1475.
200	5.41	33.79	199	26.69	138.2	4.19	3.78	1474.
225	5.15	33.80	223	26.73	134.7	4.53	4.51	1474.
250	4.95	33.81	248	26.76	132.1	4.86	5.32	1473.
300	4.53	33.84	298	26.84	125.4	5.50	7.12	1472.
400	4.09	33.97	397	26.98	112.0	6.69	11.33	1472.
500	3.86	34.06	496	27.08	103.5	7.76	16.26	1473.
600	3.62	34.14	595	27.17	95.8	8.76	21.83	1474.
800	3.26	34.26	793	27.30	84.6	10.55	34.58	1476.
1000	2.92	34.35	990	27.40	75.7	12.15	49.21	1478.
1200	2.65	34.41	1188	27.47	69.0	13.59	65.36	1480.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 9
49-26.0 N 136-40.0 W
MO.-5 DAY-11 GMT-14.0
31
32
33
34
35
SALINITY, 0/00

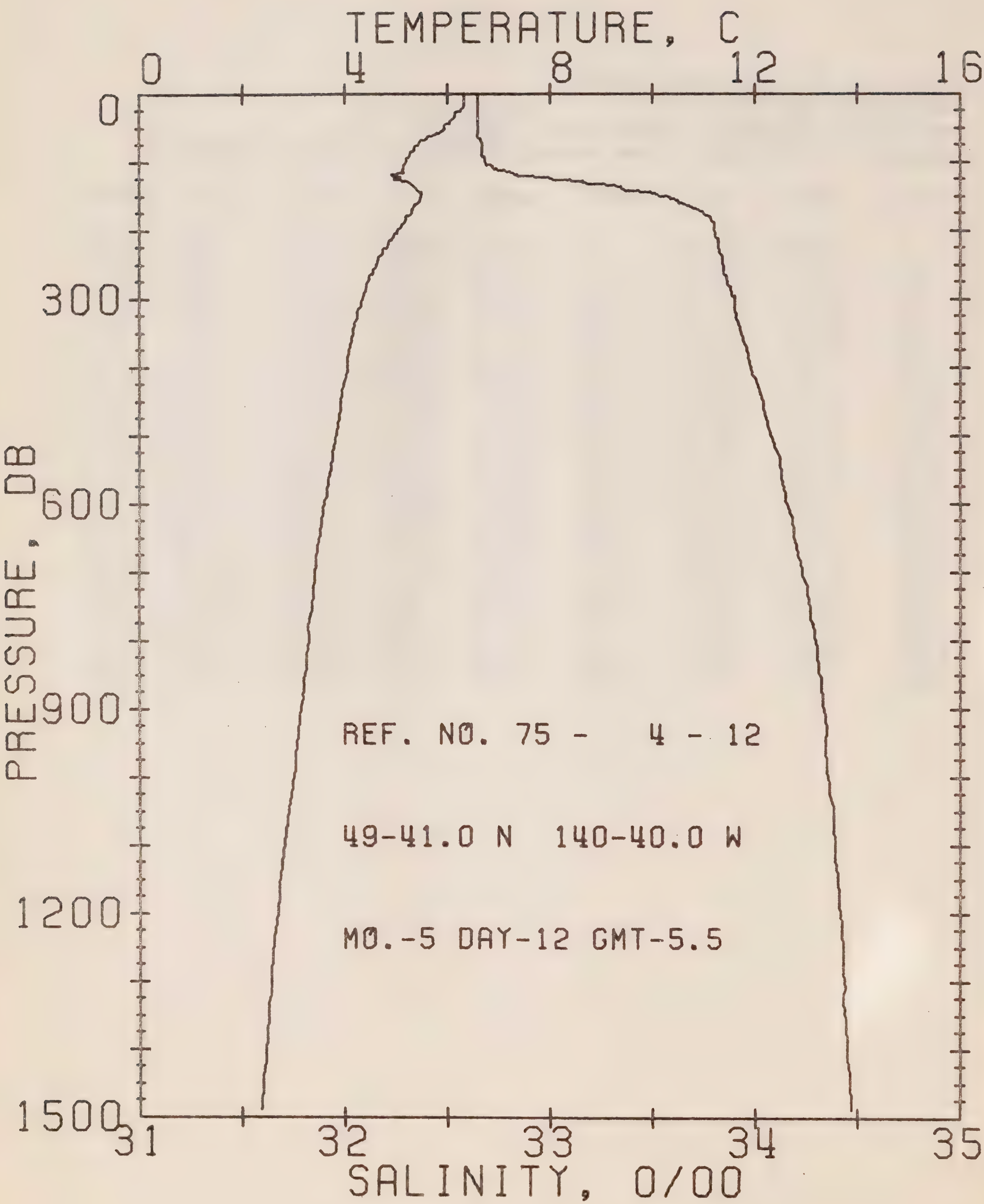
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 9 DATE 11/ 5/75
POSITION 49-26.0N, 136-40.0W GMT 14.0
RESULTS OF STP CAST 290 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	FCT. EN	SOUND
0	6.66	32.47	0	25.50	249.3	0.0	0.0	1474.
10	6.66	32.47	10	25.50	249.7	0.25	0.01	1475.
20	6.64	32.47	20	25.50	249.3	0.50	0.05	1475.
30	6.64	32.48	30	25.51	248.9	0.75	0.11	1475.
50	6.44	32.48	50	25.53	246.7	1.24	0.32	1474.
75	6.26	32.48	75	25.56	244.8	1.86	0.71	1474.
100	6.14	32.65	99	25.71	230.9	2.46	1.24	1474.
125	5.96	33.31	124	26.25	179.5	2.97	1.83	1475.
150	5.88	33.64	149	26.52	154.5	3.39	2.41	1475.
175	5.73	33.77	174	26.64	143.2	3.76	3.03	1475.
200	5.61	33.83	199	26.70	137.6	4.11	3.70	1475.
225	5.21	33.84	223	26.76	132.5	4.45	4.43	1474.
250	4.97	33.87	248	26.81	127.8	4.77	5.21	1473.
300	4.76	33.92	298	26.87	122.2	5.40	6.96	1473.
400	4.38	34.03	397	27.00	110.7	6.56	11.11	1474.
500	4.10	34.13	496	27.11	101.2	7.62	15.96	1474.
600	3.91	34.18	595	27.17	96.2	8.61	21.48	1475.
800	3.47	34.29	793	27.30	84.6	10.41	34.29	1477.
1000	3.00	34.36	990	27.40	75.6	12.01	48.99	1478.
1200	2.68	34.42	1188	27.47	69.1	13.46	65.17	1480.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 10
49-34.0 N 138-40.0 W
MO.-5 DAY-11 GMT-21.0
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 10 DATE 11/ 5/75
POSITION 49-34.0N, 138-40.0W GMT 21.0
RESULTS OF STP CAST 286 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.26	32.62	0	25.67	233.3	0.0	0.0	1473.
10	6.28	32.62	10	25.66	233.8	0.23	0.01	1473.
20	6.12	32.62	20	25.68	232.1	0.47	0.05	1473.
30	6.05	32.62	30	25.69	231.4	0.70	0.11	1473.
50	5.85	32.62	50	25.72	229.2	1.16	0.29	1472.
75	5.62	32.63	75	25.75	226.1	1.73	0.66	1472.
100	5.06	32.67	99	25.85	217.1	2.28	1.15	1470.
125	4.98	32.91	124	26.05	198.5	2.81	1.75	1470.
150	5.43	33.57	149	26.52	154.5	3.25	2.37	1473.
175	5.27	33.75	174	26.68	139.4	3.61	2.97	1473.
200	4.96	33.81	199	26.76	131.6	3.95	3.62	1473.
225	4.79	33.83	223	26.80	128.5	4.28	4.33	1472.
250	4.66	33.84	248	26.82	126.6	4.60	5.10	1472.
300	4.39	33.89	298	26.89	120.4	5.21	6.83	1472.
400	4.07	33.99	397	27.00	109.9	6.36	10.91	1472.
500	3.86	34.09	496	27.10	101.4	7.42	15.76	1473.
600	3.66	34.16	595	27.17	95.1	8.40	21.24	1474.
800	3.29	34.27	793	27.30	84.2	10.18	33.92	1476.
1000	2.90	34.34	990	27.39	76.1	11.79	48.63	1478.
1200	2.63	34.40	1188	27.46	69.9	13.25	64.97	1480.


TEMPERATURE, C
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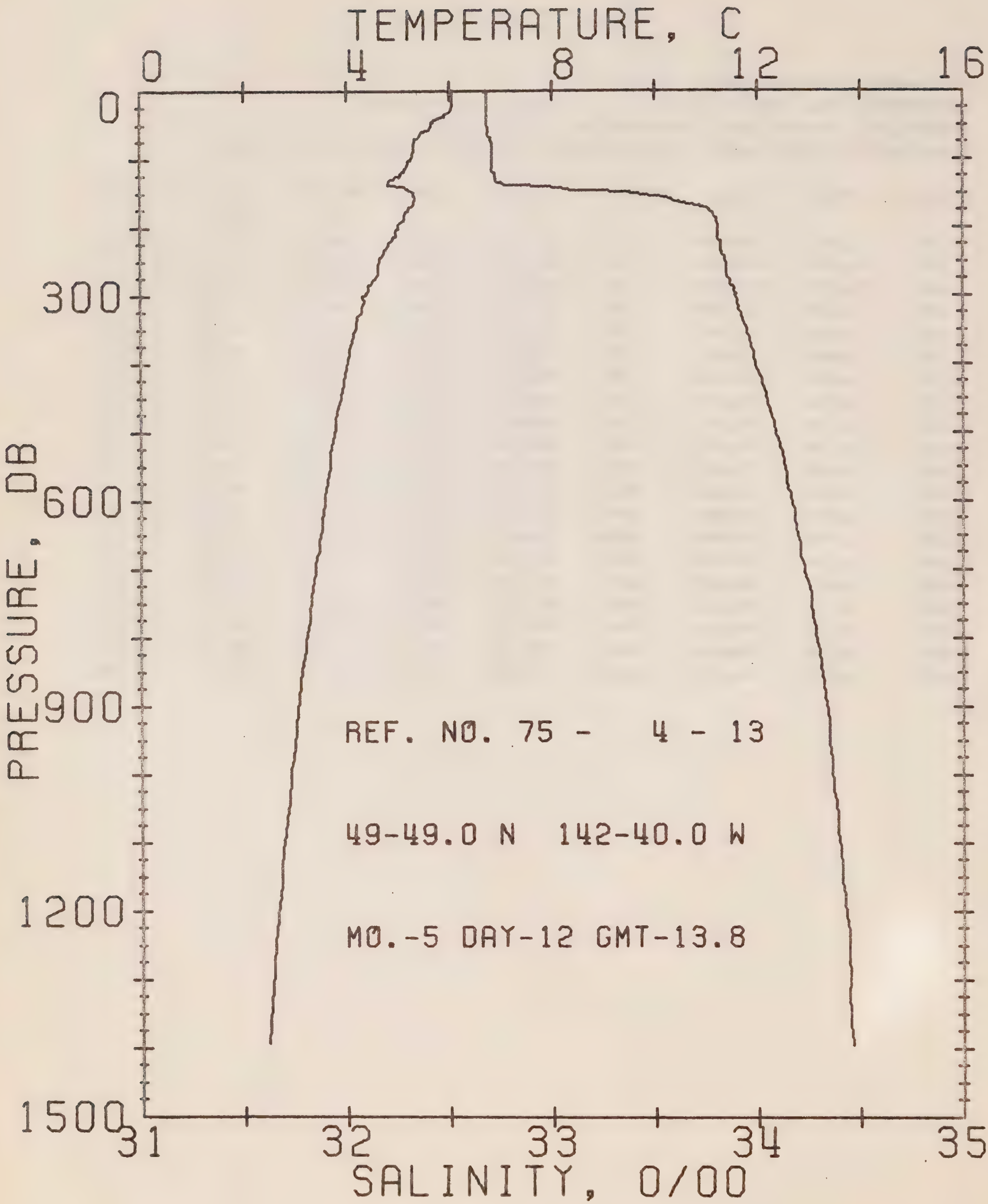
4
8
12
16
PRESSURE, DB
0
300
600
900
1200
1500
REF. NO. 75 - 4 - 12
49-41.0 N 140-40.0 W
MO.-5 DAY-12 GMT-5.5
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 12 DATE 12/ 5/75
POSITION 49-41.0N, 140-40.0W GMT 5.5
RESULTS OF STP CAST 308 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.31	32.64	0	25.68	232.4	0.C	0.0	1473.
10	6.31	32.65	10	25.68	232.0	0.23	0.01	1473.
20	6.30	32.65	20	25.69	231.9	0.46	0.05	1474.
30	6.15	32.65	30	25.70	230.3	0.70	0.11	1473.
50	5.95	32.65	50	25.73	228.2	1.15	0.29	1473.
75	5.43	32.67	75	25.81	220.9	1.72	0.65	1471.
100	5.19	32.68	99	25.84	217.8	2.26	1.14	1470.
125	4.96	33.02	124	26.14	190.0	2.79	1.74	1470.
150	5.48	33.54	149	26.49	157.2	3.22	2.34	1473.
175	5.28	33.75	174	26.68	139.4	3.58	2.95	1473.
200	5.03	33.80	199	26.75	133.1	3.92	3.59	1473.
225	4.80	33.82	223	26.79	129.4	4.25	4.30	1472.
250	4.62	33.84	248	26.82	126.1	4.57	5.07	1472.
300	4.34	33.90	298	26.90	119.0	5.18	6.79	1472.
400	4.04	33.98	397	26.99	110.9	6.33	10.89	1472.
500	3.83	34.08	496	27.09	102.1	7.39	15.75	1473.
600	3.60	34.15	595	27.18	94.7	8.37	21.23	1474.
800	3.29	34.29	793	27.32	82.5	10.13	33.75	1476.
1000	3.00	34.35	990	27.39	76.0	11.71	48.21	1478.
1200	2.68	34.41	1188	27.47	69.3	13.15	64.38	1480.


TEMPERATURE, C
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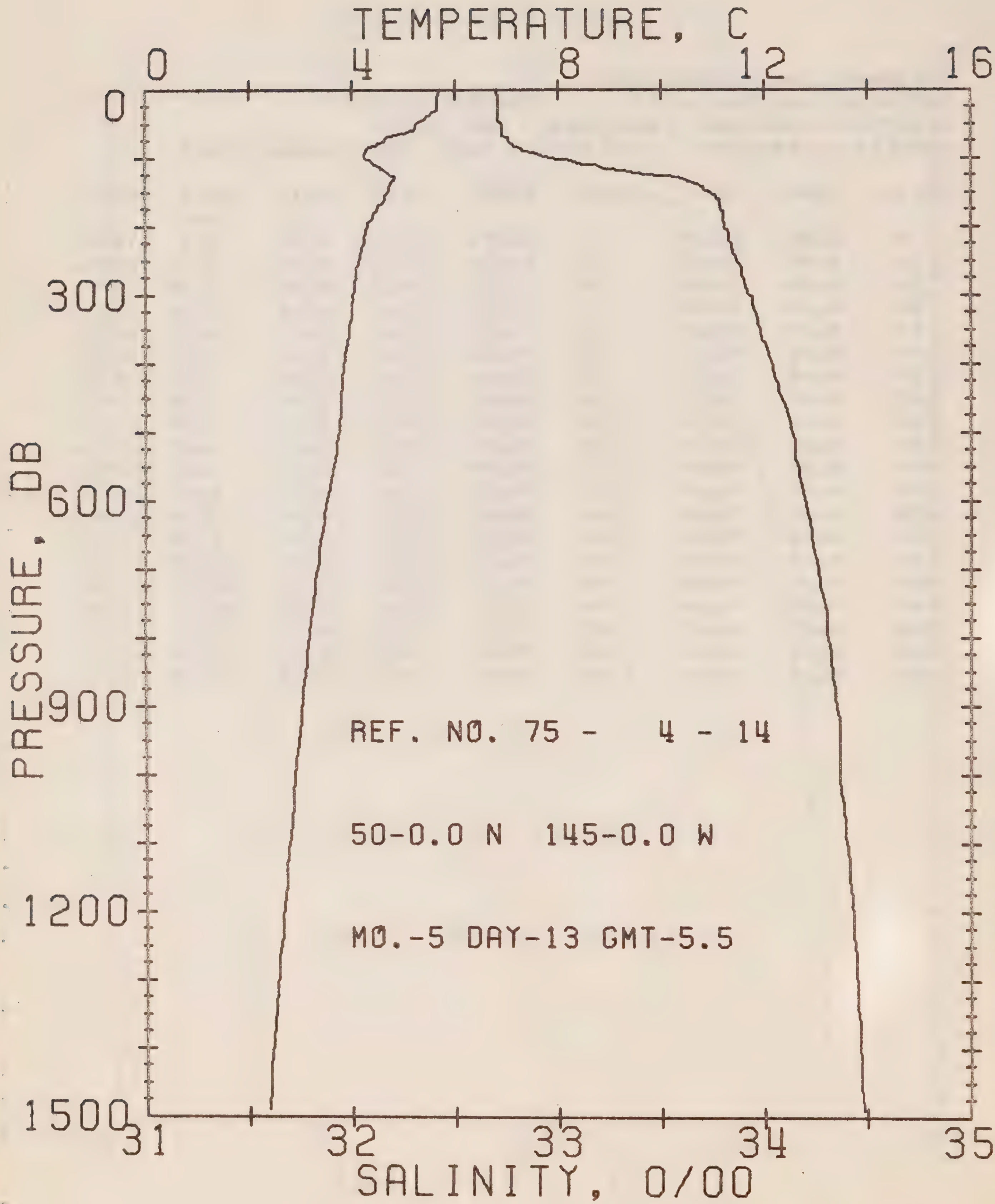
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 13
49-49.0 N 142-40.0 W
MO.-5 DAY-12 GMT-13.8
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 13 DATE 12/ 5/75
POSITION 49-49.0N, 142-40.0W GMT 13.8
RESULTS OF STP CAST 285 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.04	32.67	0	25.73	226.9	0.0	0.0	1472.
10	6.05	32.68	10	25.74	226.6	0.23	0.01	1472.
20	6.04	32.68	20	25.74	226.7	0.45	0.05	1472.
30	6.01	32.68	30	25.75	226.4	0.68	0.10	1473.
50	5.65	32.68	50	25.79	222.4	1.13	0.29	1471.
75	5.31	32.70	75	25.85	217.0	1.68	0.64	1470.
100	5.24	32.71	99	25.86	216.2	2.22	1.12	1471.
125	5.01	32.72	124	25.89	213.1	2.76	1.74	1470.
150	5.31	33.38	149	26.38	167.3	3.25	2.43	1473.
175	5.20	33.77	174	26.70	137.1	3.63	3.05	1473.
200	5.01	33.81	199	26.76	132.2	3.97	3.69	1473.
225	4.84	33.82	223	26.78	129.8	4.29	4.40	1472.
250	4.63	33.84	248	26.82	126.0	4.61	5.18	1472.
300	4.34	33.89	298	26.90	119.5	5.23	6.90	1472.
400	4.02	33.99	397	27.01	109.7	6.38	10.98	1472.
500	3.76	34.09	496	27.11	100.6	7.42	15.78	1473.
600	3.56	34.16	595	27.19	93.4	8.39	21.20	1474.
800	3.22	34.29	793	27.32	82.2	10.14	33.67	1476.
1000	2.91	34.36	990	27.41	74.5	11.70	47.89	1478.
1200	2.66	34.43	1188	27.48	68.1	13.12	63.82	1480.


TEMPERATURE, C
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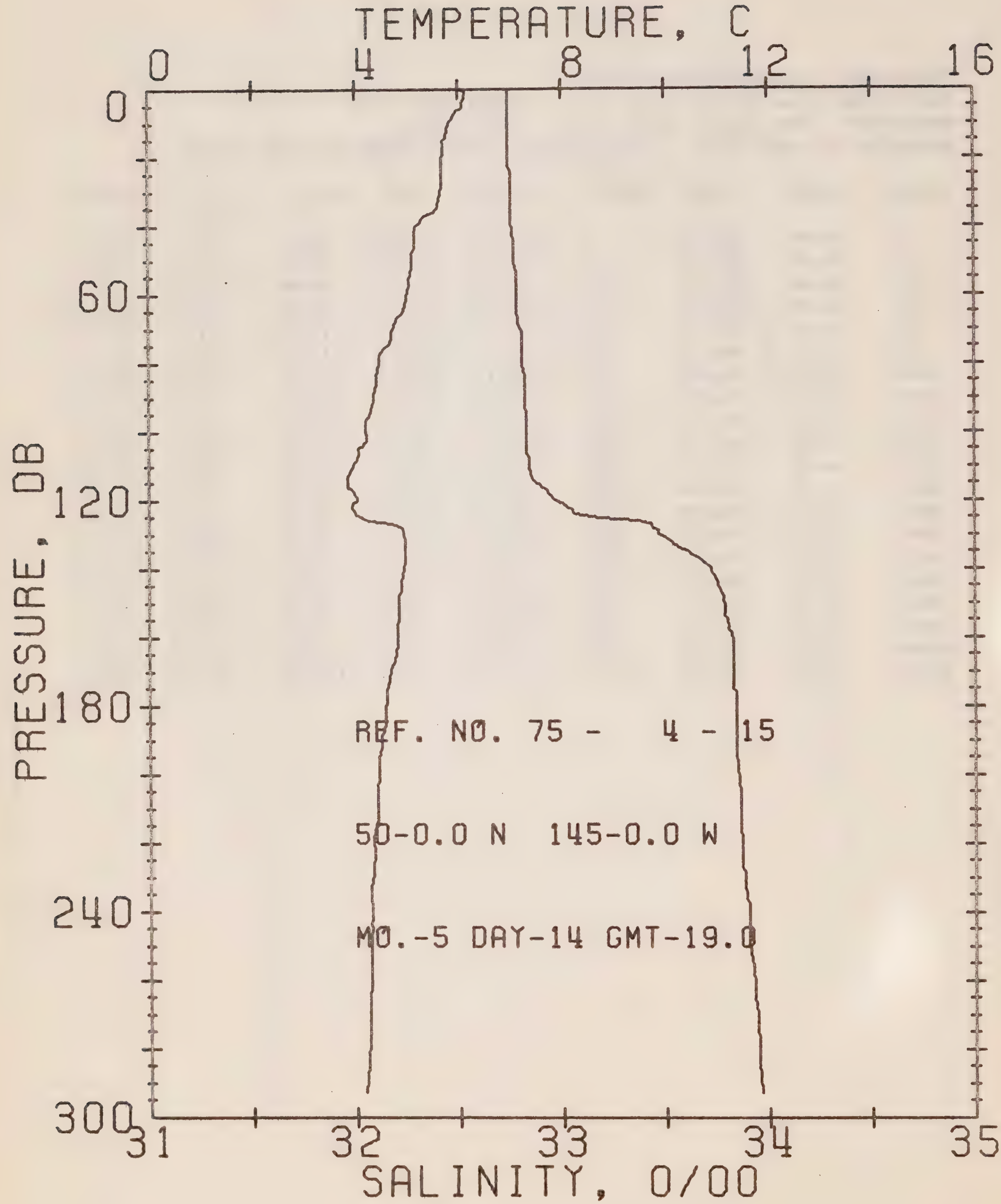
8
12
16
PRESSURE, DB
0
300
600
900
1200
1500
REF. NO. 75 - 4 - 14
50-0.0 N 145-0.0 W
MO.-5 DAY-13 GMT-5.5
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 14   DATE 13/ 5/75
POSITION 50- 0.0N. 145- 0.0W   GMT 5.5
RESULTS OF STP CAST   255 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.70	32.70	0	25.80	220.8	0.0	0.0	1471.
10	5.66	32.71	10	25.81	219.9	0.22	0.01	1471.
20	5.66	32.71	20	25.81	220.0	0.44	0.04	1471.
30	5.65	32.71	30	25.81	220.0	0.66	0.10	1471.
50	5.25	32.72	50	25.87	215.0	1.10	0.28	1470.
75	4.62	32.76	75	25.97	205.5	1.62	0.61	1468.
100	4.27	32.96	99	26.16	187.2	2.12	1.05	1467.
125	4.77	33.51	124	26.55	151.2	2.55	1.54	1470.
150	4.68	33.73	149	26.73	133.8	2.90	2.04	1470.
175	4.49	33.79	174	26.80	127.8	3.22	2.58	1470.
200	4.29	33.81	199	26.84	124.4	3.54	3.18	1470.
225	4.21	33.84	223	26.86	121.8	3.85	3.84	1470.
250	4.13	33.86	248	26.89	119.1	4.15	4.57	1470.
300	4.01	33.93	298	26.96	113.5	4.73	6.20	1470.
400	3.86	34.03	397	27.06	104.7	5.82	10.10	1471.
500	3.75	34.13	496	27.15	96.9	6.83	14.71	1473.
600	3.51	34.20	595	27.22	90.6	7.77	19.97	1474.
800	3.17	34.30	793	27.34	80.4	9.47	32.04	1475.
1000	2.89	34.36	990	27.41	74.4	11.00	46.06	1478.
1200	2.66	34.43	1188	27.48	68.2	12.42	62.00	1480.


TEMPERATURE, C
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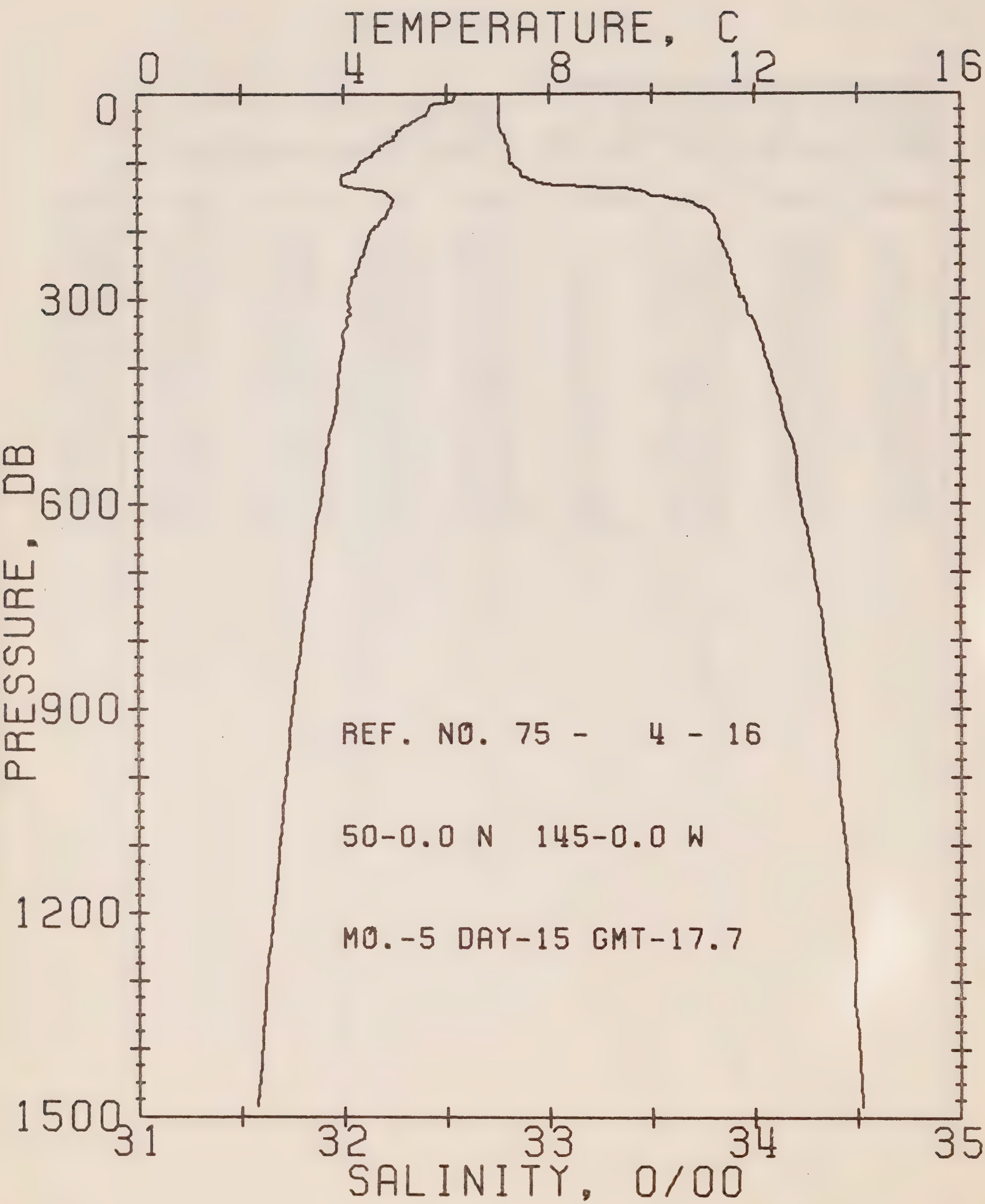
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 15
50-0.0 N 145-0.0 W
MO.-5 DAY-14 GMT-19.0
31
32
33
34
35
SALINITY, 0/00

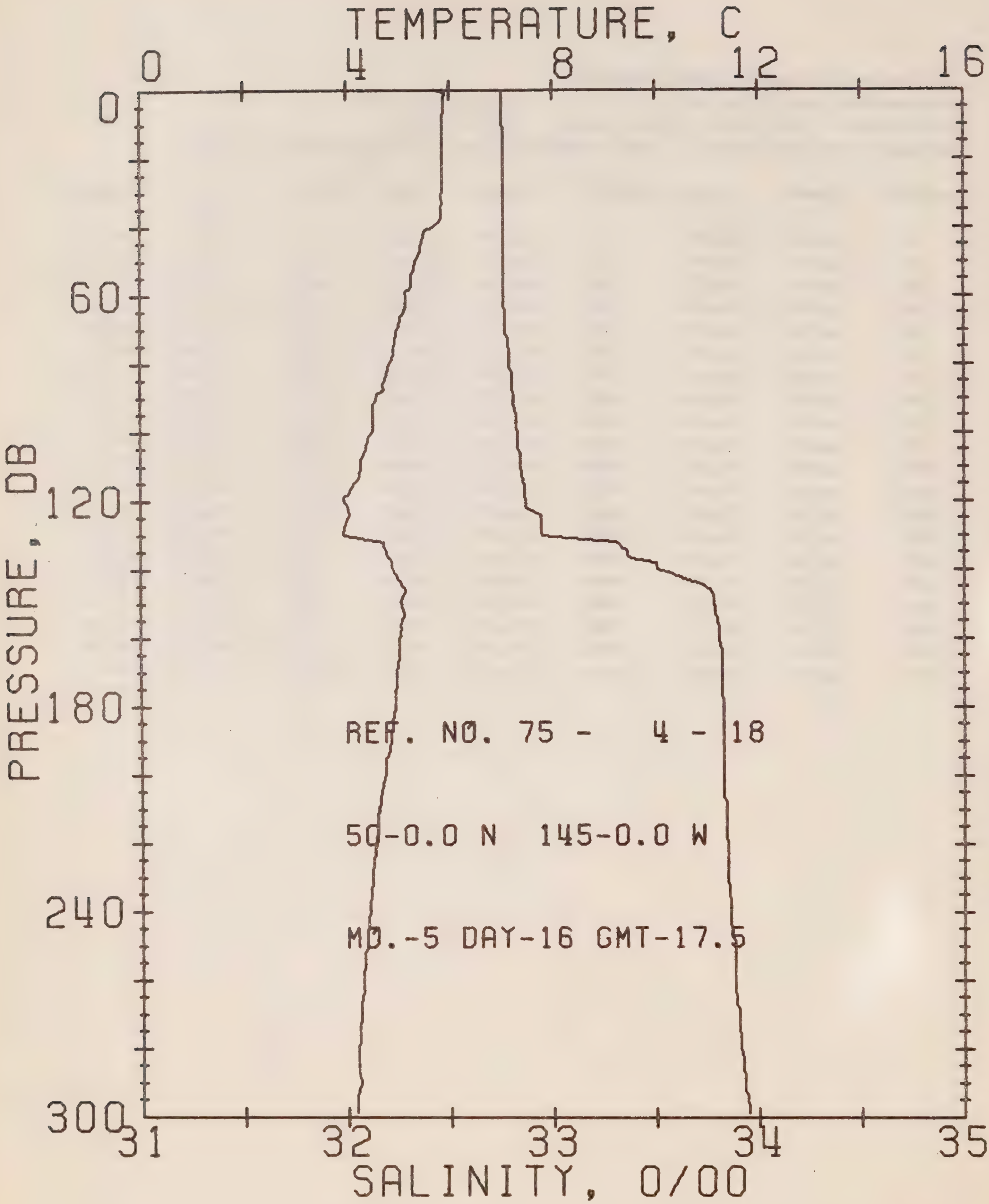
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 15 DATE 14/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 19.0
RESULTS OF STP CAST 169 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.05	32.74	0	25.79	221.8	0.0	0.0	1472.
10	5.80	32.74	10	25.82	219.2	0.22	0.01	1471.
20	5.69	32.74	20	25.83	218.0	0.44	0.04	1471.
30	5.66	32.75	30	25.84	217.1	0.66	0.10	1471.
50	5.09	32.77	50	25.92	209.5	1.08	0.27	1469.
75	4.60	32.81	75	26.01	201.5	1.60	0.60	1468.
100	4.20	32.83	99	26.07	196.2	2.10	1.04	1466.
125	4.12	33.19	124	26.36	168.5	2.57	1.59	1467.
150	4.84	33.78	149	26.75	131.8	2.93	2.09	1471.
175	4.58	33.83	174	26.82	125.7	3.25	2.62	1471.
200	4.42	33.85	199	26.85	122.6	3.56	3.21	1470.
225	4.33	33.87	223	26.88	120.6	3.86	3.87	1470.
250	4.27	33.90	248	26.91	117.6	4.16	4.59	1471.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 16
50-0.0 N 145-0.0 W
MO.-5 DAY-15 GMT-17.7
31
32
33
34
35
SALINITY, 0/00

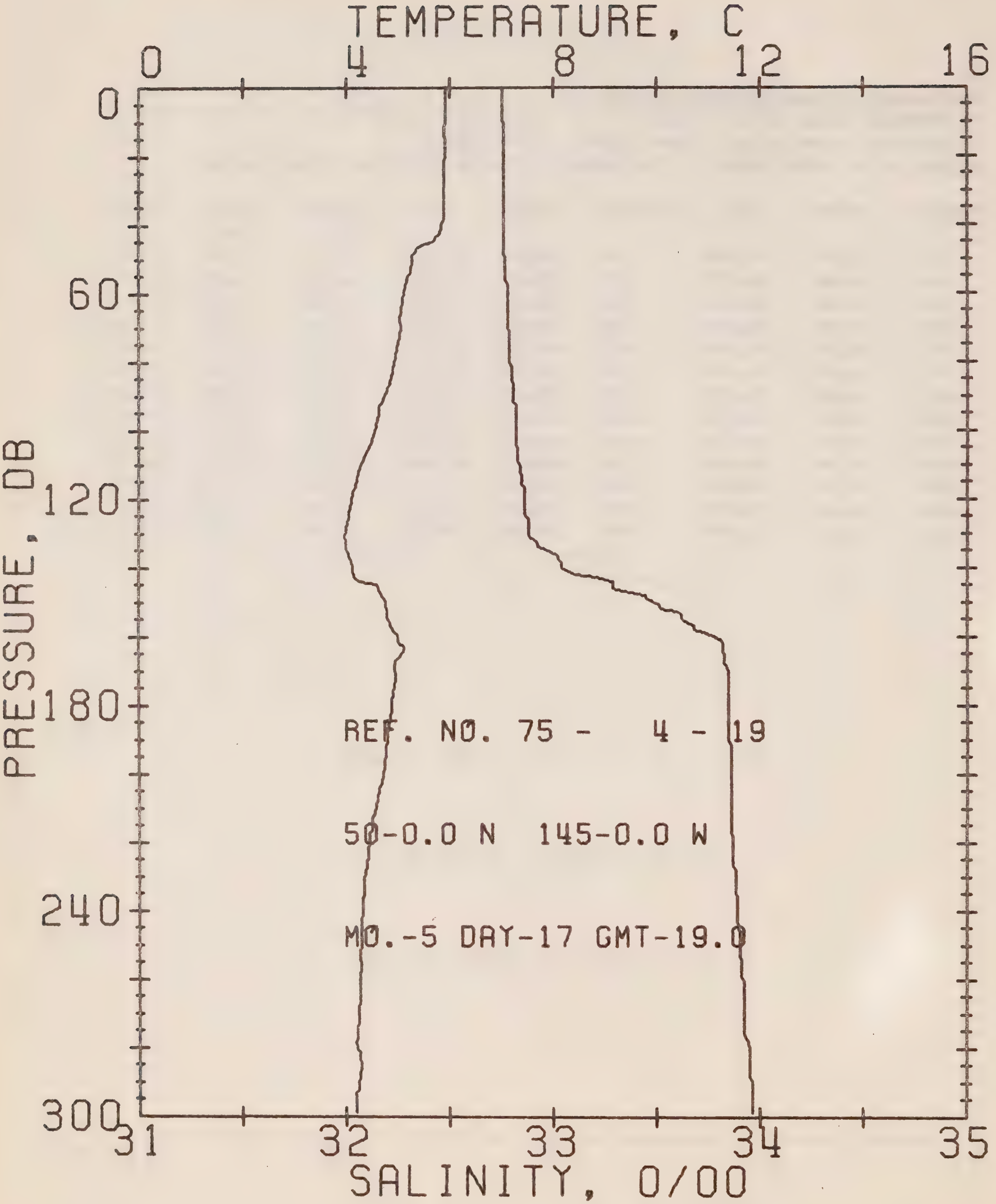
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 16 DATE 15/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.7
RESULTS OF STP CAST 261 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.09	32.75	0	25.79	221.5	0.0	0.0	1472.
10	6.14	32.75	10	25.78	222.5	0.22	0.01	1473.
20	5.67	32.75	20	25.84	217.1	0.44	0.04	1471.
30	5.60	32.75	30	25.85	216.4	0.66	0.10	1471.
50	5.12	32.75	50	25.91	211.3	1.09	0.27	1469.
75	4.78	32.80	75	25.98	204.2	1.61	0.61	1468.
100	4.34	32.81	99	26.04	199.1	2.11	1.06	1467.
125	3.95	32.90	124	26.15	188.7	2.60	1.61	1466.
150	4.90	33.50	149	26.52	153.6	3.02	2.20	1471.
175	4.85	33.78	174	26.75	132.1	3.37	2.78	1472.
200	4.54	33.83	199	26.82	125.5	3.69	3.39	1471.
225	4.41	33.85	223	26.85	122.9	4.00	4.07	1471.
250	4.29	33.88	248	26.89	119.6	4.30	4.80	1471.
300	4.08	33.94	298	26.96	113.1	4.89	6.43	1471.
400	3.92	34.07	397	27.08	103.0	5.97	10.27	1472.
500	3.71	34.17	496	27.18	93.9	6.95	14.80	1473.
600	3.55	34.22	595	27.24	89.1	7.87	19.90	1474.
800	3.16	34.33	793	27.36	77.9	9.53	31.71	1476.
1000	2.86	34.40	990	27.45	70.9	11.00	45.21	1478.
1200	2.60	34.47	1188	27.52	64.5	12.36	60.39	1480.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 18
50-0.0 N 145-0.0 W
MO.-5 DAY-16 GMT-17.5
31
32
33
34
35
SALINITY, 0/00

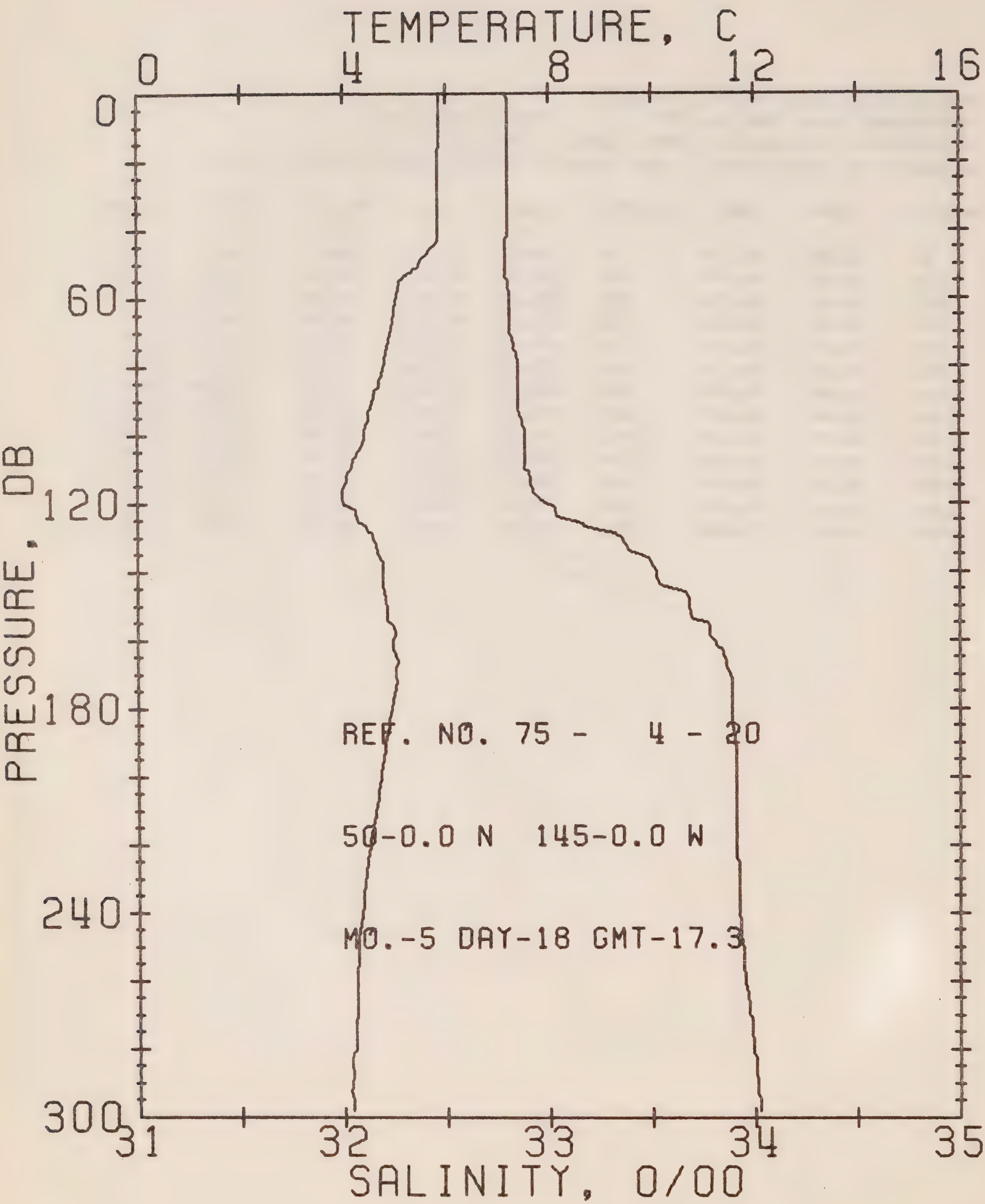
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 18 DATE 16/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.5
RESULTS OF STP CAST 159 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.71	32.75	0	25.84	217.2	0.0	0.0	1471.
10	5.88	32.75	10	25.82	219.2	0.22	0.01	1472.
20	5.88	32.76	20	25.82	218.8	0.44	0.04	1472.
30	5.86	32.76	30	25.83	218.6	0.66	0.10	1472.
50	5.34	32.76	50	25.89	213.0	1.09	0.28	1470.
75	4.92	32.78	75	25.95	207.2	1.62	0.61	1469.
100	4.49	32.83	99	26.04	199.2	2.12	1.06	1468.
125	4.01	32.94	124	26.17	186.3	2.61	1.62	1466.
150	5.05	33.78	149	26.73	134.2	3.00	2.17	1472.
175	4.94	33.82	174	26.77	130.4	3.33	2.72	1472.
200	4.73	33.83	199	26.80	127.6	3.66	3.33	1472.
225	4.51	33.85	223	26.84	124.0	3.97	4.01	1471.
250	4.37	33.88	248	26.88	120.5	4.28	4.76	1471.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 19
50-0.0 N 145-0.0 W
MO.-5 DAY-17 GMT-19.0
31
32
33
34
35
SALINITY, 0/00

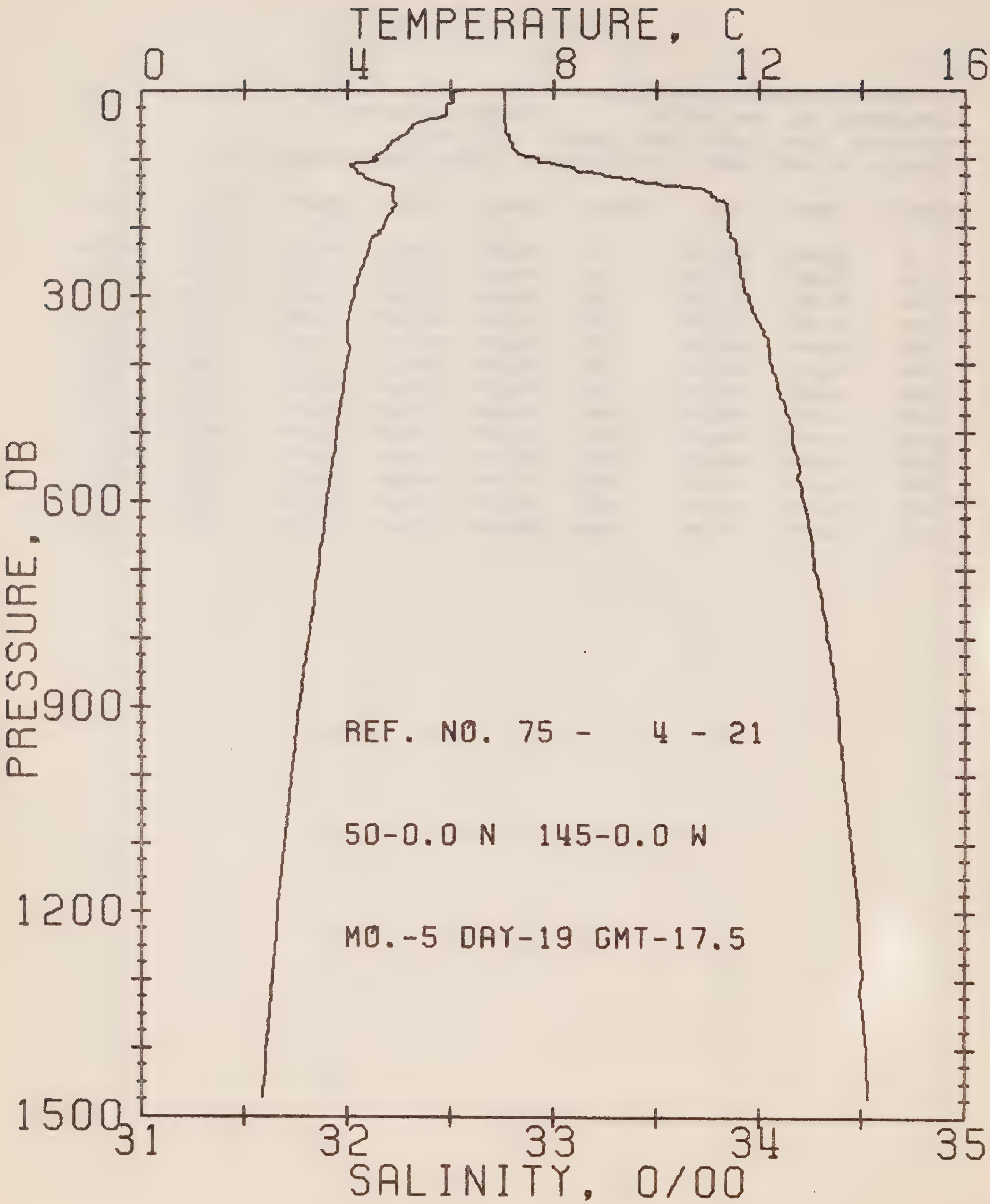
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 19 DATE 17/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 19.0
RESULTS OF STP CAST 204 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	5.93	32.75	0	25.81	219.7	0.0	0.0	1472.
10	5.91	32.75	10	25.82	219.5	0.22	0.01	1472.
20	5.91	32.76	20	25.82	219.1	0.44	0.04	1472.
30	5.89	32.76	30	25.82	219.0	0.66	0.10	1472.
50	5.28	32.77	50	25.90	211.5	1.09	0.28	1470.
75	4.99	32.79	75	25.95	207.2	1.62	0.61	1469.
100	4.56	32.82	99	26.02	200.6	2.13	1.06	1468.
125	4.04	32.87	124	26.12	191.8	2.62	1.63	1466.
150	4.77	33.49	149	26.53	153.0	3.06	2.25	1470.
175	4.92	33.85	174	26.80	127.9	3.40	2.81	1472.
200	4.71	33.86	199	26.83	125.1	3.72	3.41	1472.
225	4.41	33.87	223	26.87	121.3	4.02	4.08	1471.
250	4.29	33.90	248	26.91	118.1	4.32	4.80	1471.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
60
120
180
240
300
REF. NO. 75 - 4 - 20
50-0.0 N 145-0.0 W
MO.-5 DAY-18 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

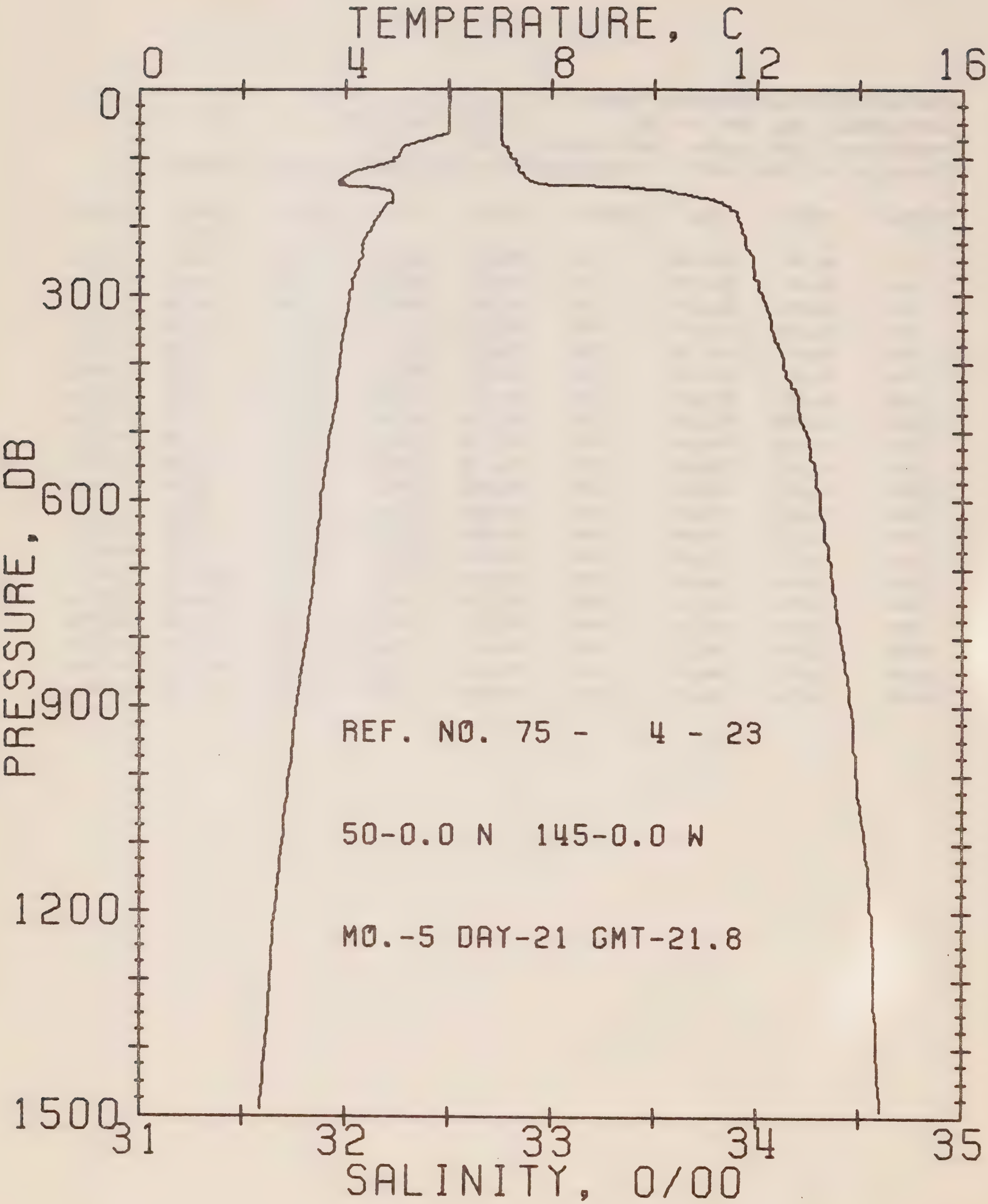
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 20   DATE 18/ 5/75
POSITION 50- 0.0N, 145- 0.0W   GMT 17.3
RESULTS OF STP CAST   201 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.88	32.79	0	25.85	216.1	0.0	0.0	1472.
10	5.86	32.80	10	25.86	215.4	0.22	0.01	1472.
20	5.85	32.80	20	25.86	215.4	0.43	0.04	1472.
30	5.85	32.80	30	25.86	215.5	0.65	0.10	1472.
50	5.46	32.79	50	25.90	212.1	1.08	0.27	1471.
75	4.83	32.83	75	26.00	202.5	1.59	0.60	1469.
100	4.40	32.88	99	26.09	194.4	2.09	1.04	1467.
125	4.29	33.12	124	26.29	175.5	2.56	1.58	1468.
150	4.85	33.68	149	26.67	139.6	2.95	2.12	1471.
175	5.00	33.89	174	26.82	125.8	3.27	2.67	1472.
200	4.72	33.91	199	26.87	121.4	3.58	3.26	1472.
225	4.45	33.92	223	26.91	118.0	3.88	3.91	1471.
250	4.27	33.94	248	26.94	115.1	4.18	4.61	1471.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 21
50-0.0 N 145-0.0 W
MO.-5 DAY-19 GMT-17.5
31
32
33
34
35
SALINITY, 0/00

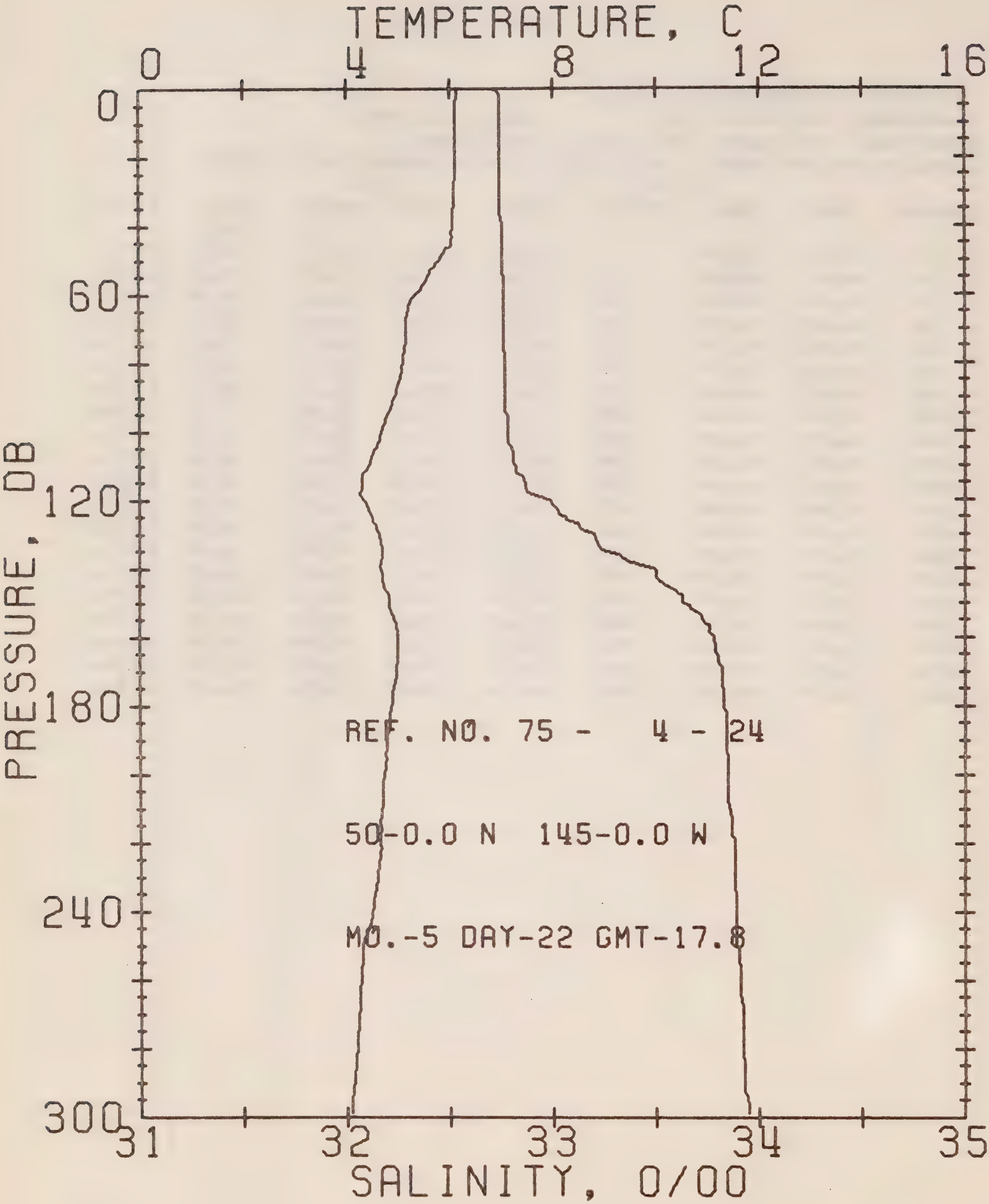
OFFSHCRE OCEANOGRAPHY GRCUP
REFERENCE NO. 75- 4- 21 DATE 19/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.5
RESULTS OF STP CAST 338 POINTS TAKEN FROM ANALCG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.27	32.74	0	25.76	224.4	0.0	0.0	1473.
10	6.06	32.76	10	25.80	220.8	0.22	0.01	1473.
20	5.98	32.76	20	25.81	220.0	0.44	0.05	1472.
30	5.92	32.76	30	25.82	219.3	0.66	0.10	1472.
50	5.31	32.76	50	25.89	212.6	1.10	0.28	1470.
75	4.86	32.79	75	25.97	205.7	1.62	0.61	1469.
100	4.52	32.93	99	26.11	191.9	2.13	1.06	1468.
125	4.33	33.25	124	26.39	166.2	2.58	1.58	1468.
150	4.89	33.76	149	26.73	134.1	2.95	2.10	1471.
175	4.88	33.84	174	26.79	128.2	3.28	2.64	1472.
200	4.70	33.85	199	26.82	125.7	3.59	3.25	1471.
225	4.43	33.89	223	26.88	120.4	3.90	3.91	1471.
250	4.33	33.90	248	26.90	118.5	4.20	4.64	1471.
300	4.12	33.94	298	26.96	113.7	4.78	6.26	1471.
400	3.98	34.05	397	27.06	104.7	5.86	10.12	1472.
500	3.78	34.16	496	27.17	95.3	6.86	14.69	1473.
600	3.59	34.22	595	27.23	90.0	7.79	19.89	1474.
800	3.25	34.33	793	27.35	79.3	9.48	31.90	1476.
1000	2.92	34.41	990	27.45	71.0	10.97	45.53	1478.
1200	2.64	34.48	1188	27.53	63.8	12.32	60.61	1480.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 23
50-0.0 N 145-0.0 W
MO.-5 DAY-21 GMT-21.8
31
32
33
34
35
SALINITY, 0/00

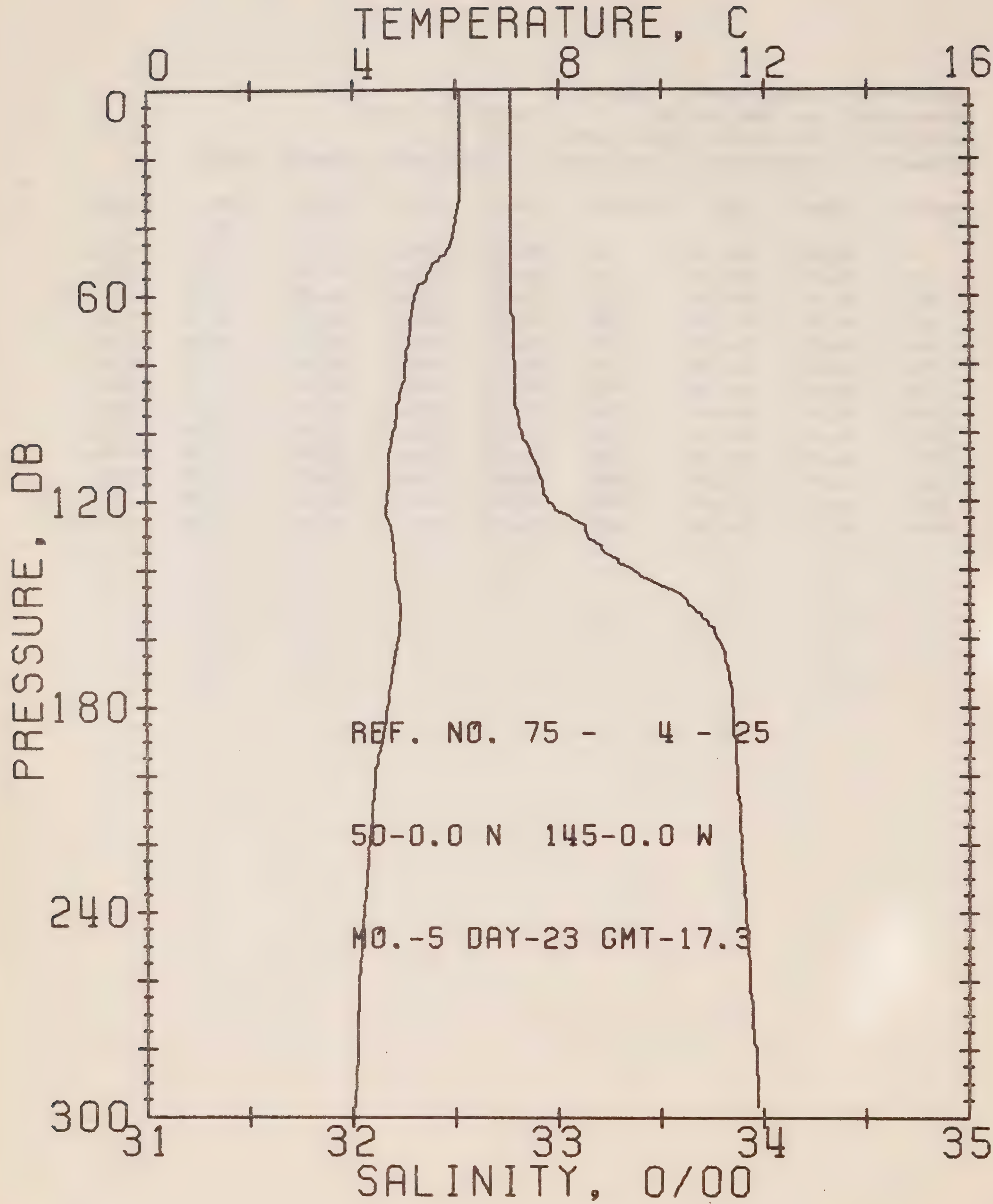
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 23 DATE 21/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 21.8
RESULTS OF STP CAST 342 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.02	32.74	0	25.79	221.4	0.0	0.0	1472.
10	6.02	32.75	10	25.80	221.0	0.22	0.01	1472.
20	6.02	32.75	20	25.80	221.1	0.44	0.05	1473.
30	6.00	32.75	30	25.80	221.1	0.66	0.10	1473.
50	6.00	32.75	50	25.80	221.3	1.11	0.28	1473.
75	5.53	32.75	75	25.86	216.1	1.66	0.63	1471.
100	4.96	32.80	99	25.96	206.3	2.18	1.10	1470.
125	4.06	32.86	124	26.11	192.5	2.68	1.67	1466.
150	4.87	33.58	149	26.59	147.4	3.12	2.28	1471.
175	4.72	33.87	174	26.84	124.2	3.45	2.84	1471.
200	4.52	33.92	199	26.90	118.5	3.75	3.41	1471.
225	4.34	33.94	223	26.93	115.3	4.05	4.04	1471.
250	4.29	33.98	248	26.97	112.0	4.33	4.73	1471.
300	4.07	34.03	298	27.03	106.5	4.88	6.27	1471.
400	3.89	34.13	397	27.13	98.0	5.90	9.91	1472.
500	3.71	34.24	496	27.24	88.6	6.84	14.19	1473.
600	3.53	34.31	595	27.31	82.2	7.69	18.98	1474.
800	3.24	34.41	793	27.42	73.2	9.25	30.09	1476.
1000	2.91	34.48	990	27.51	65.5	10.63	42.68	1478.
1200	2.63	34.55	1188	27.59	58.5	11.86	56.48	1480.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
60
120
180
240
300
REF. NO. 75 - 4 - 24
50-0.0 N 145-0.0 W
MO.-5 DAY-22 GMT-17.8
31
32
33
34
35
SALINITY, O/OO

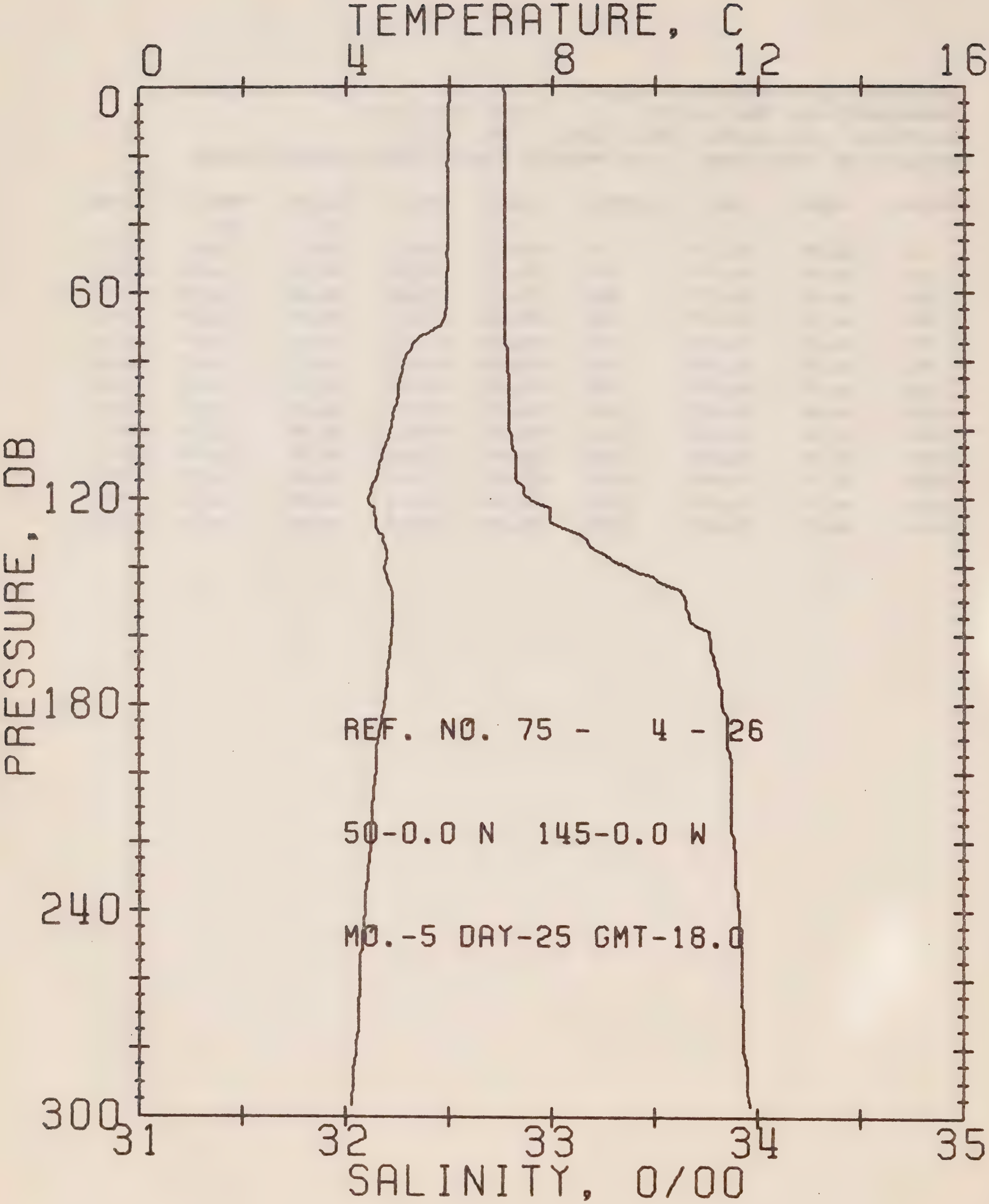
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 24 DATE 22/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.8
RESULTS OF STP CAST 177 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.14	32.71	0	25.75	225.1	0.0	0.0	1473.
10	6.11	32.74	10	25.78	222.8	0.22	0.01	1473.
20	6.10	32.74	20	25.78	222.9	0.45	0.05	1473.
30	6.08	32.74	30	25.78	222.7	0.67	0.10	1473.
50	5.78	32.75	50	25.83	218.7	1.11	0.28	1472.
75	5.13	32.76	75	25.91	210.8	1.65	0.62	1470.
100	4.66	32.78	99	25.98	204.6	2.17	1.09	1468.
125	4.52	33.06	124	26.22	182.4	2.66	1.65	1468.
150	4.84	33.63	149	26.63	143.3	3.06	2.21	1471.
175	4.89	33.82	174	26.78	129.5	3.39	2.76	1472.
200	4.71	33.85	199	26.82	125.8	3.71	3.37	1472.
225	4.63	33.88	223	26.85	123.0	4.02	4.05	1472.
250	4.30	33.89	248	26.90	118.9	4.33	4.78	1471.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
60
120
180
240
300
REF. NO. 75 - 4 - 25
50-0.0 N 145-0.0 W
MO.-5 DAY-23 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GRCUP
REFERENCE NO. 75- 4- 25 DATE 23/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 176 POINTS TAKEN FROM ANALCG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.09	32.77	0	25.81	220.1	0.0	0.0	1472.
10	6.09	32.77	10	25.81	220.4	0.22	0.01	1473.
20	6.07	32.77	20	25.81	220.2	0.44	0.04	1473.
30	6.07	32.77	30	25.81	220.4	0.66	0.10	1473.
50	5.65	32.77	50	25.86	215.7	1.10	0.28	1472.
75	5.07	32.78	75	25.93	208.7	1.63	0.62	1470.
100	4.77	32.82	99	26.00	202.8	2.14	1.08	1469.
125	4.68	33.07	124	26.21	183.3	2.63	1.63	1469.
150	4.94	33.63	149	26.62	144.4	3.05	2.21	1471.
175	4.70	33.84	174	26.81	126.2	3.38	2.76	1471.
200	4.43	33.87	199	26.87	121.4	3.69	3.35	1470.
225	4.30	33.89	223	26.90	118.7	3.99	4.00	1470.
250	4.15	33.92	248	26.94	115.1	4.28	4.71	1470.


TEMPERATURE, C
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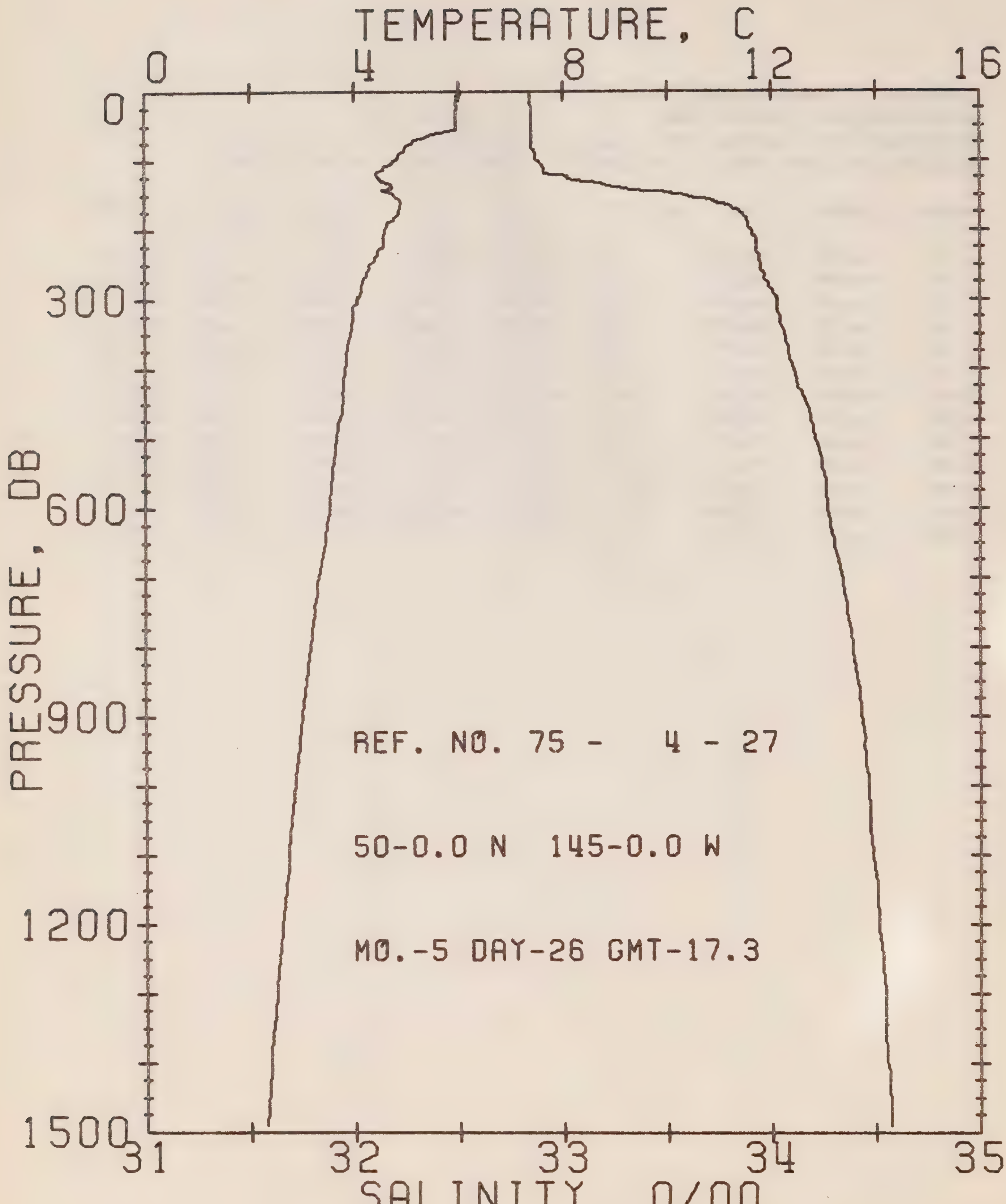
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 26
50-0.0 N 145-0.0 W
MO.-5 DAY-25 GMT-18.0
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 26 DATE 25/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.0
RESULTS OF STP CAST 176 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.99	32.76	0	25.81	219.6	0.0	0.0	1472.
10	5.98	32.77	10	25.82	219.0	0.22	0.01	1472.
20	5.97	32.77	20	25.82	219.1	0.44	0.04	1472.
30	5.97	32.77	30	25.82	219.2	0.66	0.10	1472.
50	5.96	32.77	50	25.82	219.4	1.10	0.28	1473.
75	5.29	32.77	75	25.90	211.9	1.64	0.63	1470.
100	4.85	32.79	99	25.97	205.9	2.16	1.09	1469.
125	4.57	32.99	124	26.15	188.2	2.66	1.66	1469.
150	4.92	33.64	149	26.64	143.0	3.08	2.24	1471.
175	4.79	33.81	174	26.78	129.1	3.41	2.80	1471.
200	4.58	33.87	199	26.85	123.0	3.73	3.40	1471.
225	4.45	33.89	223	26.88	120.3	4.03	4.06	1471.
250	4.31	33.91	248	26.92	117.2	4.33	4.78	1471.


TEMPERATURE, C
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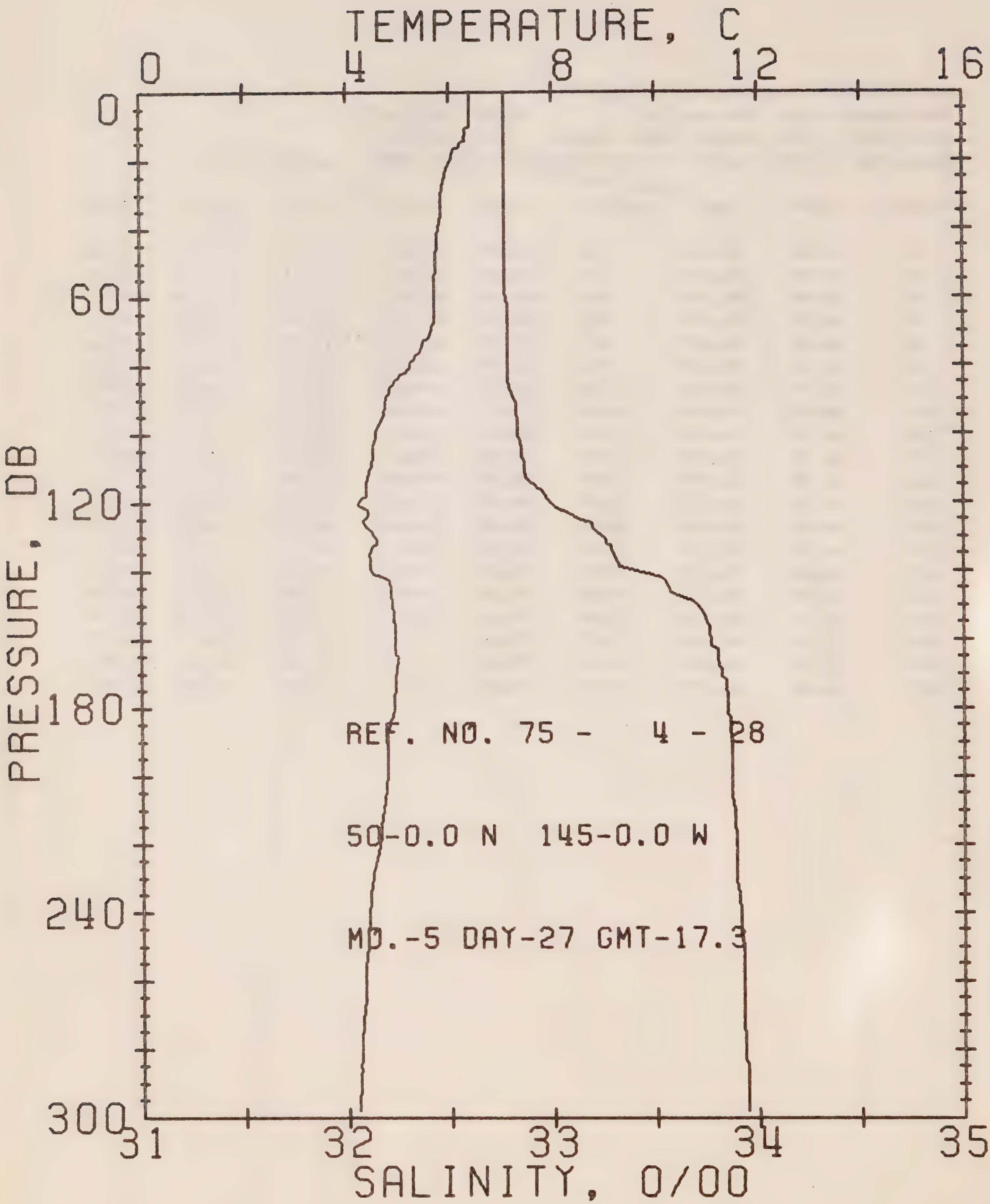
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 27
50-0.0 N 145-0.0 W
MO.-5 DAY-26 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 27 DATE 26/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 296 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.03	32.84	0	25.87	214.1	0.0	0.0	1472.
10	5.97	32.84	10	25.88	213.7	0.21	0.01	1472.
20	5.96	32.84	20	25.88	213.7	0.43	0.04	1472.
30	5.95	32.85	30	25.89	212.9	0.64	0.10	1473.
50	5.95	32.85	50	25.89	213.1	1.07	0.27	1473.
75	5.11	32.85	75	25.98	203.9	1.59	0.60	1470.
100	4.77	32.88	99	26.05	198.2	2.09	1.05	1469.
125	4.47	33.02	124	26.19	184.9	2.58	1.60	1468.
150	4.75	33.58	149	26.60	146.1	3.00	2.19	1471.
175	4.85	33.85	174	26.81	126.8	3.33	2.75	1472.
200	4.59	33.90	199	26.87	120.8	3.64	3.34	1471.
225	4.54	33.93	223	26.90	118.3	3.94	3.98	1471.
250	4.29	33.95	248	26.95	114.3	4.23	4.69	1471.
300	4.06	34.03	298	27.03	106.4	4.79	6.24	1471.
400	3.82	34.11	397	27.12	98.9	5.81	9.91	1471.
500	3.65	34.21	496	27.22	90.2	6.76	14.24	1472.
600	3.51	34.27	595	27.28	85.1	7.63	19.12	1474.
800	3.14	34.39	793	27.41	73.6	9.21	30.37	1475.
1000	2.85	34.46	990	27.49	66.5	10.61	43.14	1478.
1200	2.60	34.51	1188	27.55	61.3	11.89	57.47	1480.


TEMPERATURE, C
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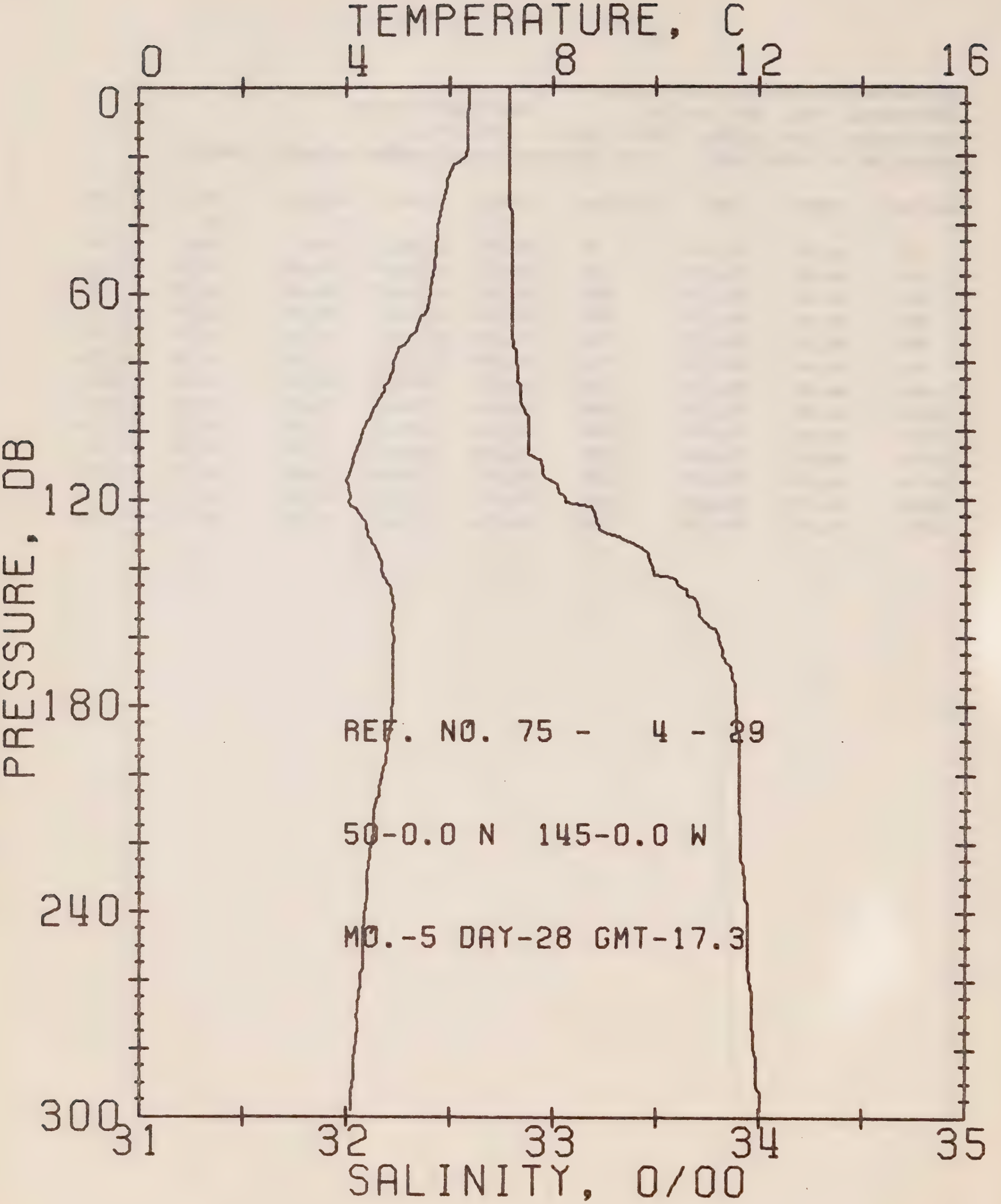
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 28
50-0.0 N 145-0.0 W
MO.-5 DAY-27 GMT-17.3
31
32
33
34
35
SALINITY, O/OO

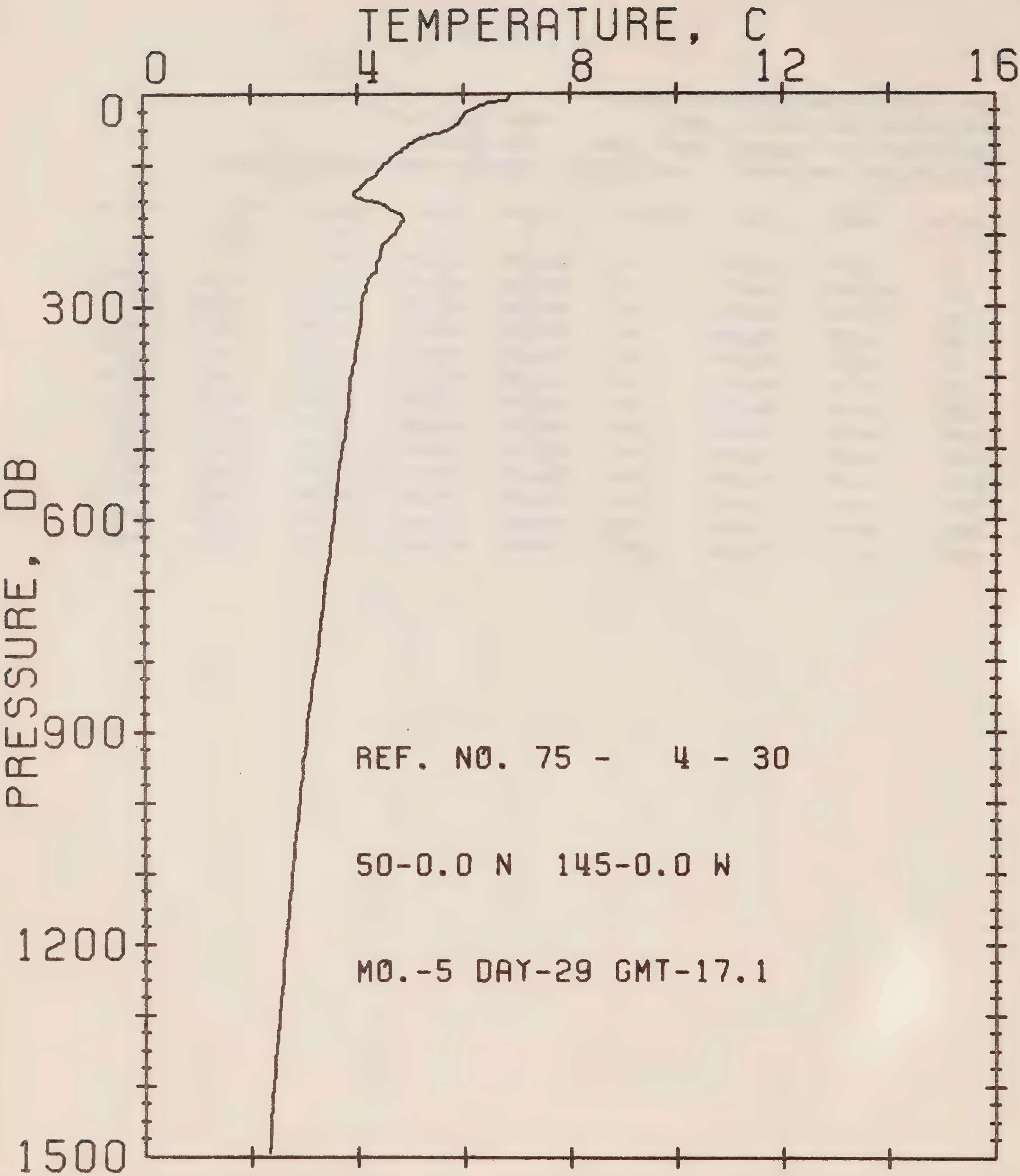
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 28 DATE 27/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 174 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	FCT. EN	SOUND
0	6.41	32.77	0	25.77	223.9	0.0	0.0	1474.
10	6.39	32.77	10	25.77	223.9	0.22	0.01	1474.
20	6.02	32.77	20	25.81	219.7	0.45	0.05	1473.
30	5.86	32.77	30	25.83	217.9	0.66	0.10	1472.
50	5.73	32.77	50	25.85	216.6	1.10	0.28	1472.
75	5.44	32.78	75	25.89	212.8	1.64	0.62	1471.
100	4.56	32.83	99	26.03	199.8	2.15	1.08	1468.
125	4.33	33.14	124	26.30	174.4	2.63	1.63	1468.
150	4.88	33.70	149	26.68	138.5	3.03	2.18	1471.
175	4.93	33.84	174	26.79	128.5	3.36	2.73	1472.
200	4.76	33.87	199	26.83	125.0	3.68	3.34	1472.
225	4.53	33.89	223	26.87	121.2	3.99	4.00	1471.
250	4.36	33.92	248	26.91	117.3	4.28	4.73	1471.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 29
50-0.0 N 145-0.0 W
MO.-5 DAY-28 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

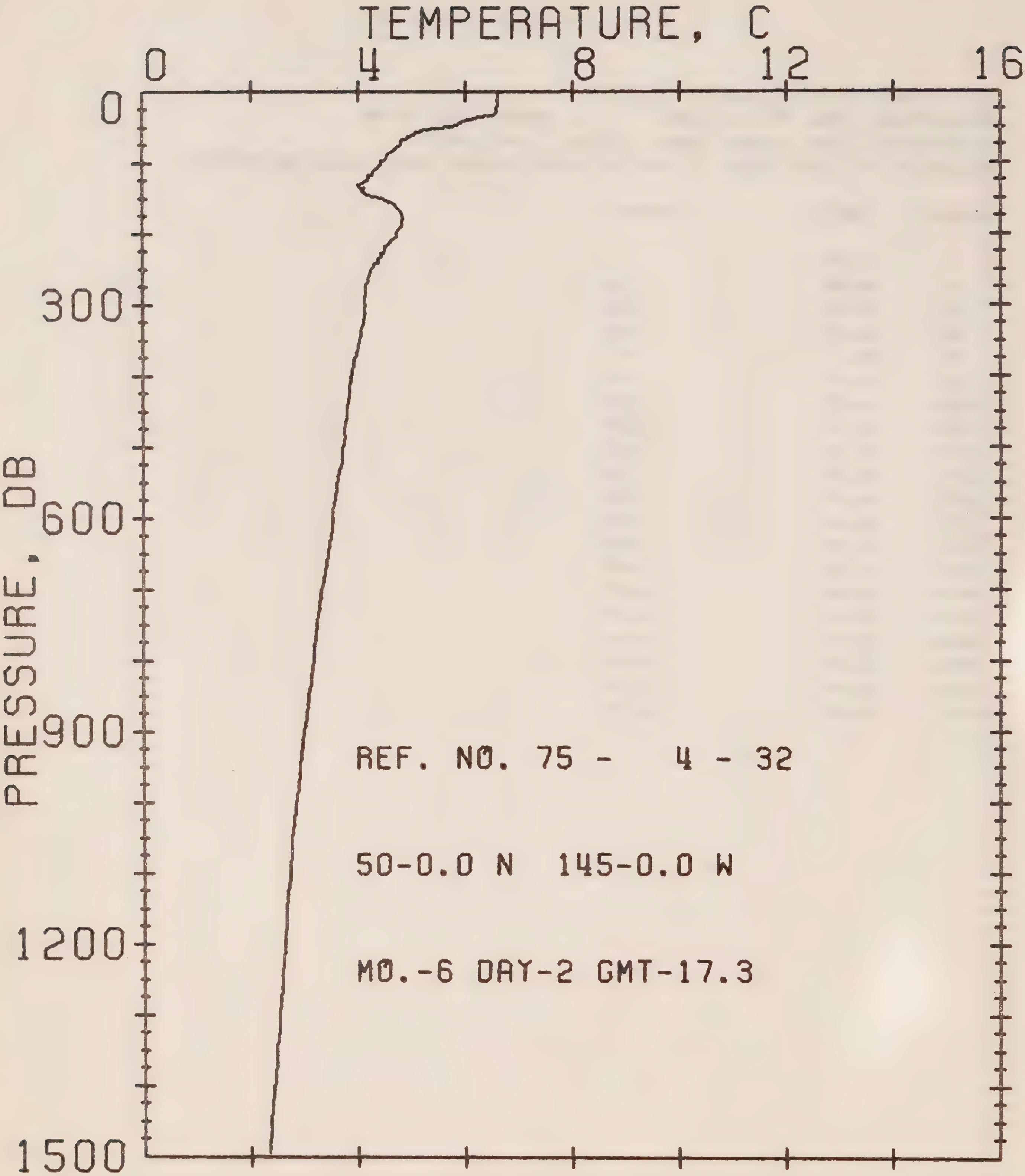
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 29 DATE 28/ 5/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 192 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	6.37	32.79	0	25.79	221.9	0.0	0.0	1474.
10	6.35	32.79	10	25.79	221.9	0.22	0.01	1474.
20	6.32	32.79	20	25.79	221.7	0.44	0.05	1474.
30	5.93	32.79	30	25.84	217.3	0.66	0.10	1472.
50	5.72	32.80	50	25.88	214.3	1.09	0.28	1472.
75	5.13	32.81	75	25.95	207.1	1.62	0.61	1470.
100	4.32	32.88	99	26.09	193.6	2.12	1.06	1467.
125	4.33	33.20	124	26.35	169.9	2.58	1.59	1468.
150	4.92	33.69	149	26.68	139.2	2.97	2.13	1471.
175	4.92	33.88	174	26.82	125.7	3.30	2.67	1472.
200	4.69	33.90	199	26.86	121.9	3.61	3.26	1472.
225	4.43	33.91	223	26.90	118.6	3.91	3.91	1471.
250	4.32	33.94	248	26.93	115.4	4.20	4.62	1471.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
300
600
900
1200
1500
REF. NO. 75 - 4 - 30
50-0.0 N 145-0.0 W
MO.-5 DAY-29 GMT-17.1

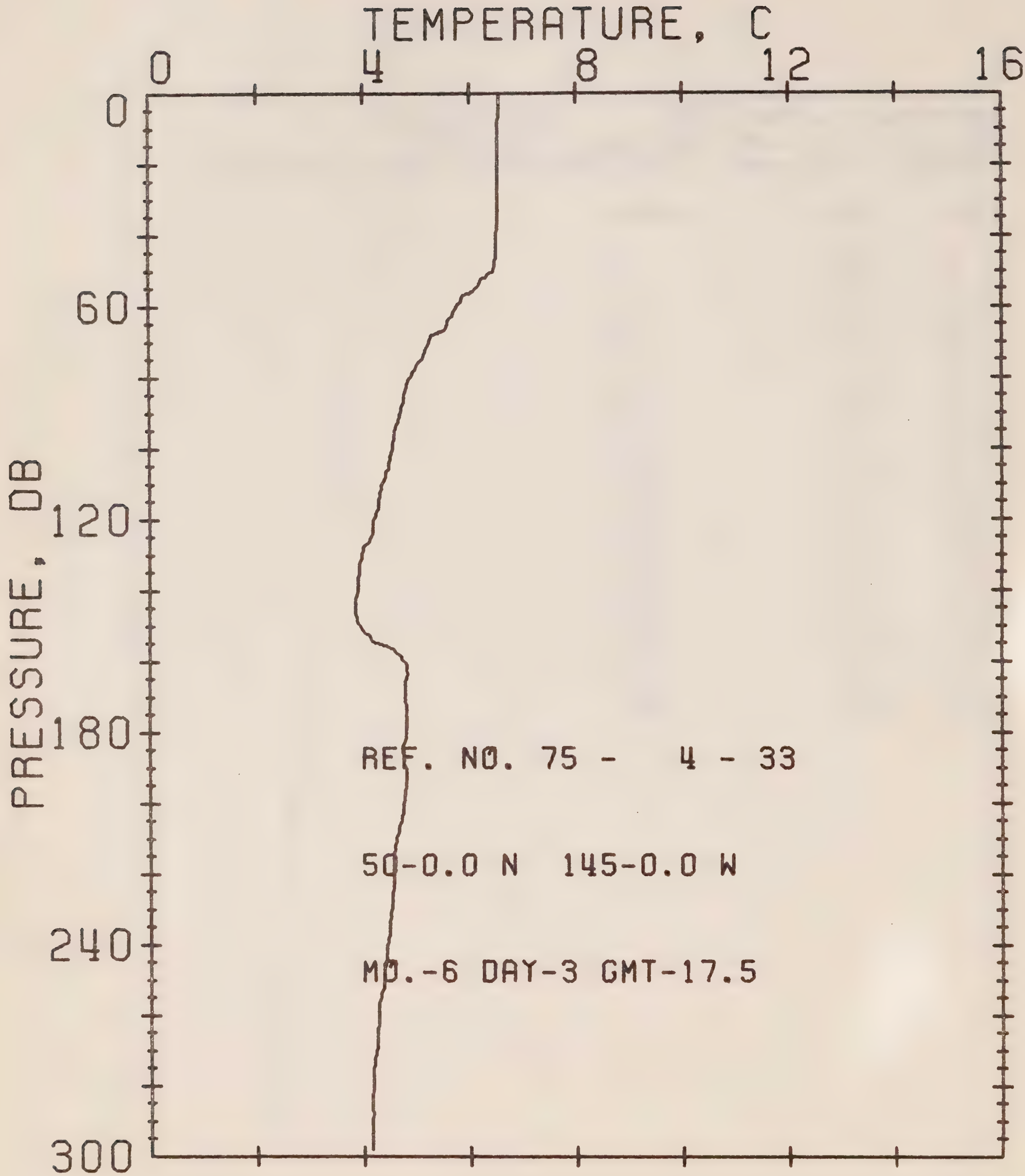
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 30 DATE 29/ 5/75
POSITION 50- 0.0N. 145- 0.0W GMT 17.1
RESULTS OF STP CAST 330 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	DEPTH
0	6.88	0
10	6.84	10
20	6.25	20
30	6.03	31
50	5.73	51
75	4.93	76
100	4.53	102
125	4.16	127
150	4.16	153
175	4.86	178
200	4.67	204
225	4.45	229
250	4.36	255
300	4.09	306
400	3.89	407
500	3.73	509
600	3.56	611
800	3.23	814
1000	2.90	1017
1200	2.63	1219


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
300
600
900
1200
1500
REF. NO. 75 - 4 - 32
50-0.0 N 145-0.0 W
MO.-6 DAY-2 GMT-17.3

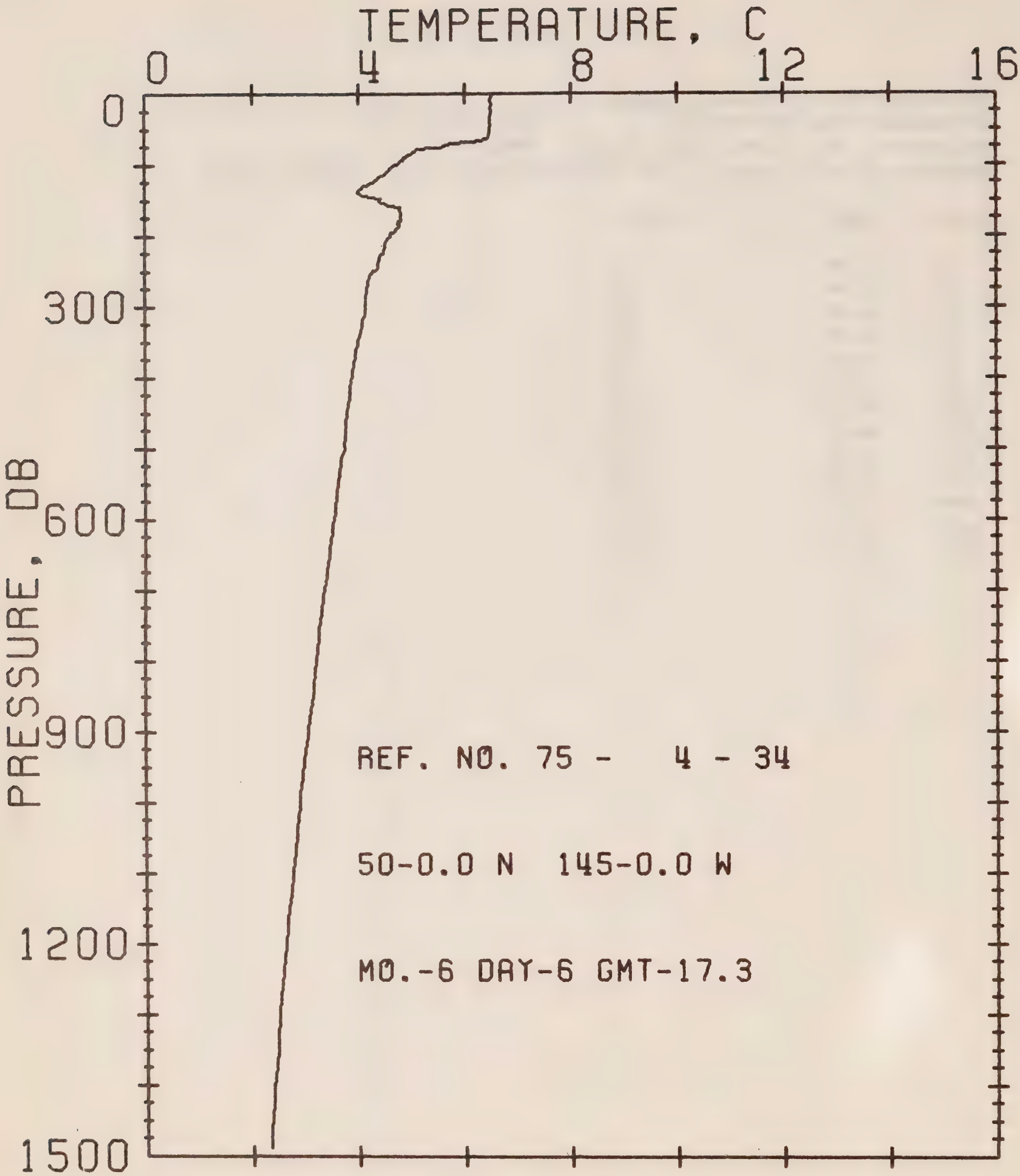
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 32 DATE 2/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 326 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	DEPTH
0	6.62	0
10	6.61	10
20	6.61	20
30	6.59	31
50	5.79	51
75	4.80	76
100	4.44	102
125	4.19	127
150	4.40	153
175	4.83	178
200	4.73	204
225	4.49	229
250	4.27	255
300	4.11	306
400	3.89	407
500	3.73	509
600	3.52	611
800	3.17	814
1000	2.84	1017
1200	2.61	1219


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 33
50-0.0 N 145-0.0 W
MO.-6 DAY-3 GMT-17.5

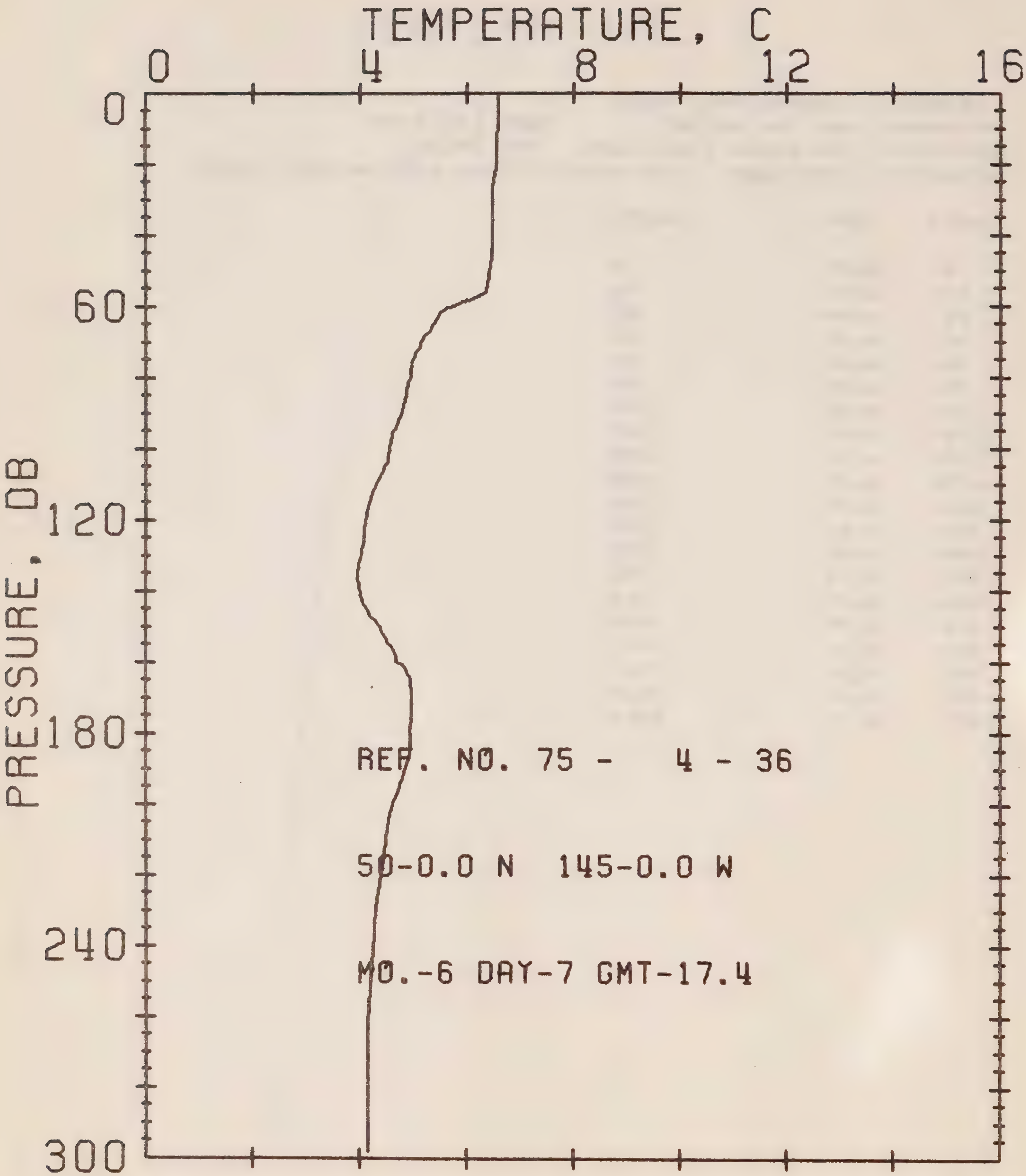
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 33   DATE 3/ 6/75
POSITION 50- 0.0N, 145- 0.0W   GMT 17.5
RESULTS OF STP CAST   174 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	DEPTH
0	6.55	0
10	6.54	10
20	6.53	20
30	6.53	31
50	6.46	51
75	5.10	76
100	4.57	102
125	4.16	127
150	3.91	153
175	4.79	178
200	4.77	204
225	4.54	229
250	4.36	255


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 34
50-0.0 N 145-0.0 W
MO.-6 DAY-6 GMT-17.3

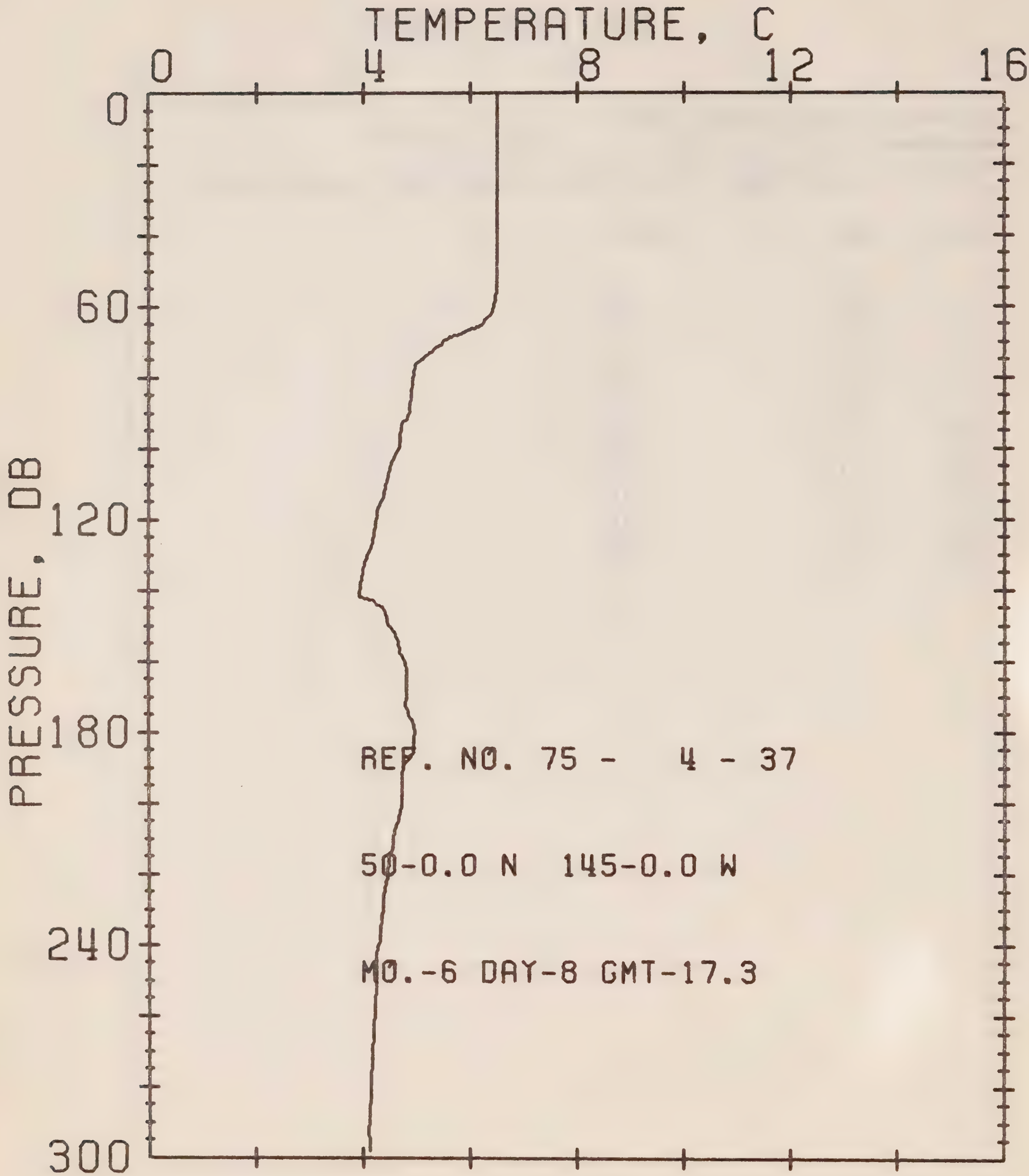
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 34 DATE 6/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 286 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	DEPTH
0	6.47	0
10	6.49	10
20	6.49	20
30	6.50	31
50	6.49	51
75	5.57	76
100	4.73	102
125	4.27	127
150	4.41	153
175	4.81	178
200	4.63	204
225	4.47	229
250	4.32	255
300	4.13	306
400	3.89	407
500	3.74	509
600	3.55	611
800	3.21	814
1000	2.87	1017
1200	2.62	1219


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 36
50-0.0 N 145-0.0 W
MO.-6 DAY-7 GMT-17.4

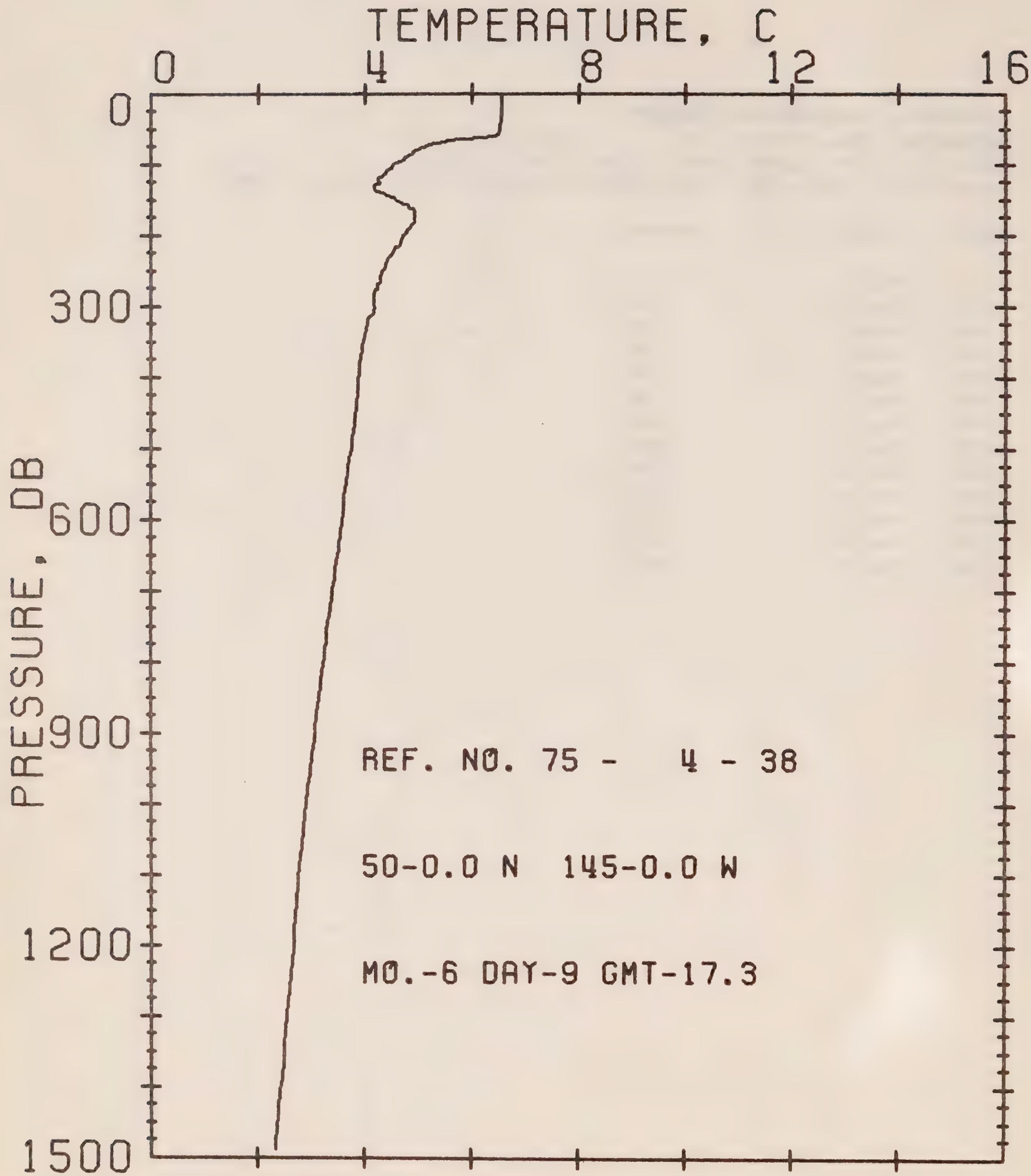
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 36 DATE 7/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.4
RESULTS OF STP CAST 166 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	DEPTH
0	6.59	0
10	6.58	10
20	6.56	20
30	6.49	31
50	6.44	51
75	5.02	76
100	4.55	102
125	4.08	127
150	4.35	153
175	4.95	178
200	4.62	204
225	4.34	229
250	4.20	255


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
60
120
180
240
300
REF. NO. 75 - 4 - 37
50-0.0 N 145-0.0 W
MO.-6 DAY-8 GMT-17.3

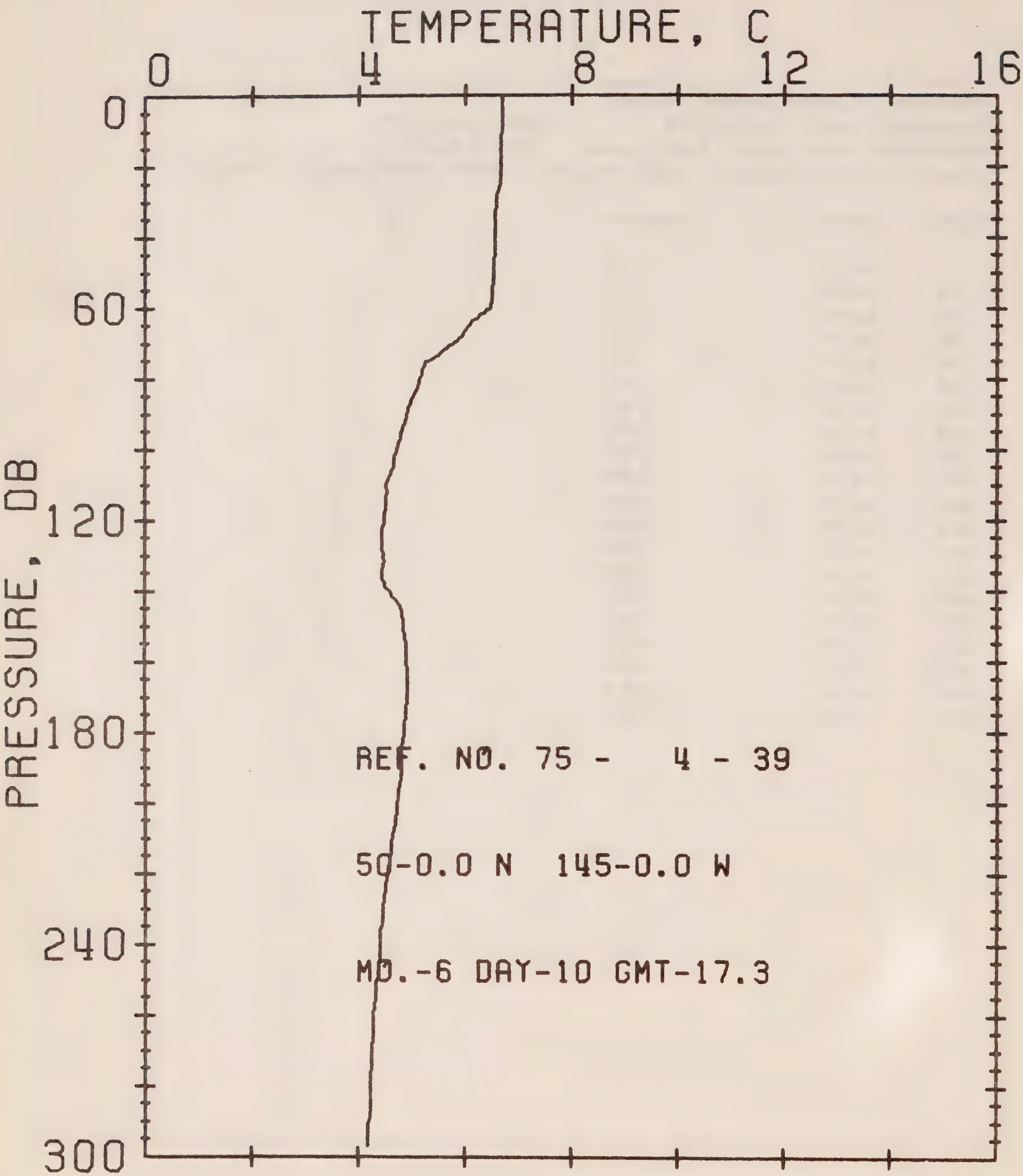
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 37 DATE 8/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 182 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	DEPTH
0	6.52	0
10	6.52	10
20	6.52	20
30	6.52	31
50	6.52	51
75	5.12	76
100	4.68	102
125	4.22	127
150	4.45	153
175	4.83	178
200	4.71	204
225	4.39	229
250	4.23	255


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 38
50-0.0 N 145-0.0 W
MO.-6 DAY-9 GMT-17.3

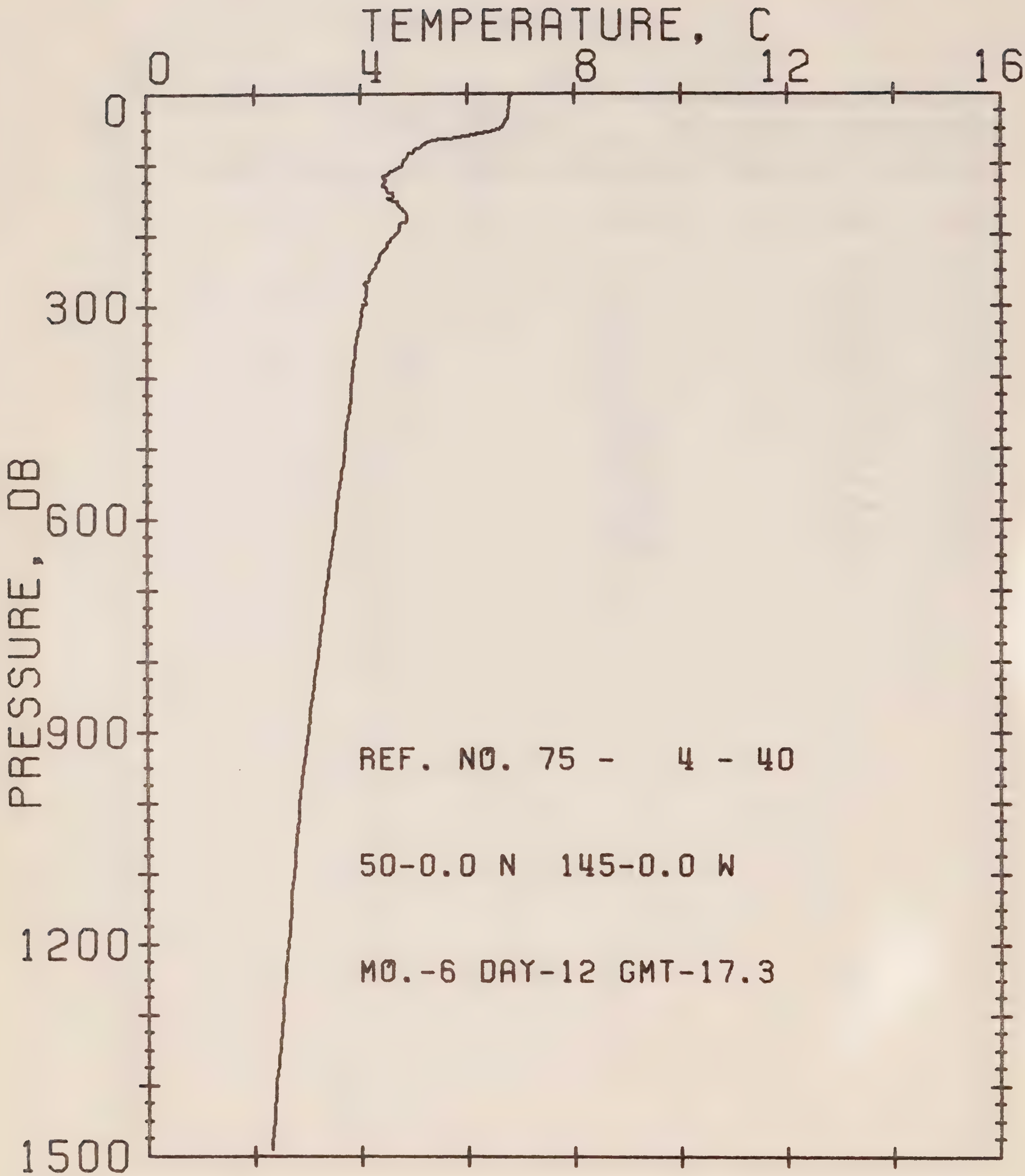
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 38 DATE 9/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 302 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	DEPTH
0	6.57	0
10	6.56	10
20	6.56	20
30	6.56	31
50	6.53	51
75	5.13	76
100	4.56	102
125	4.26	127
150	4.57	153
175	4.93	178
200	4.74	204
225	4.54	229
250	4.35	255
300	4.16	306
400	3.88	407
500	3.76	509
600	3.59	611
800	3.23	814
1000	2.90	1017
1200	2.66	1219


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 39
50-0.0 N 145-0.0 W
MO.-6 DAY-10 GMT-17.3

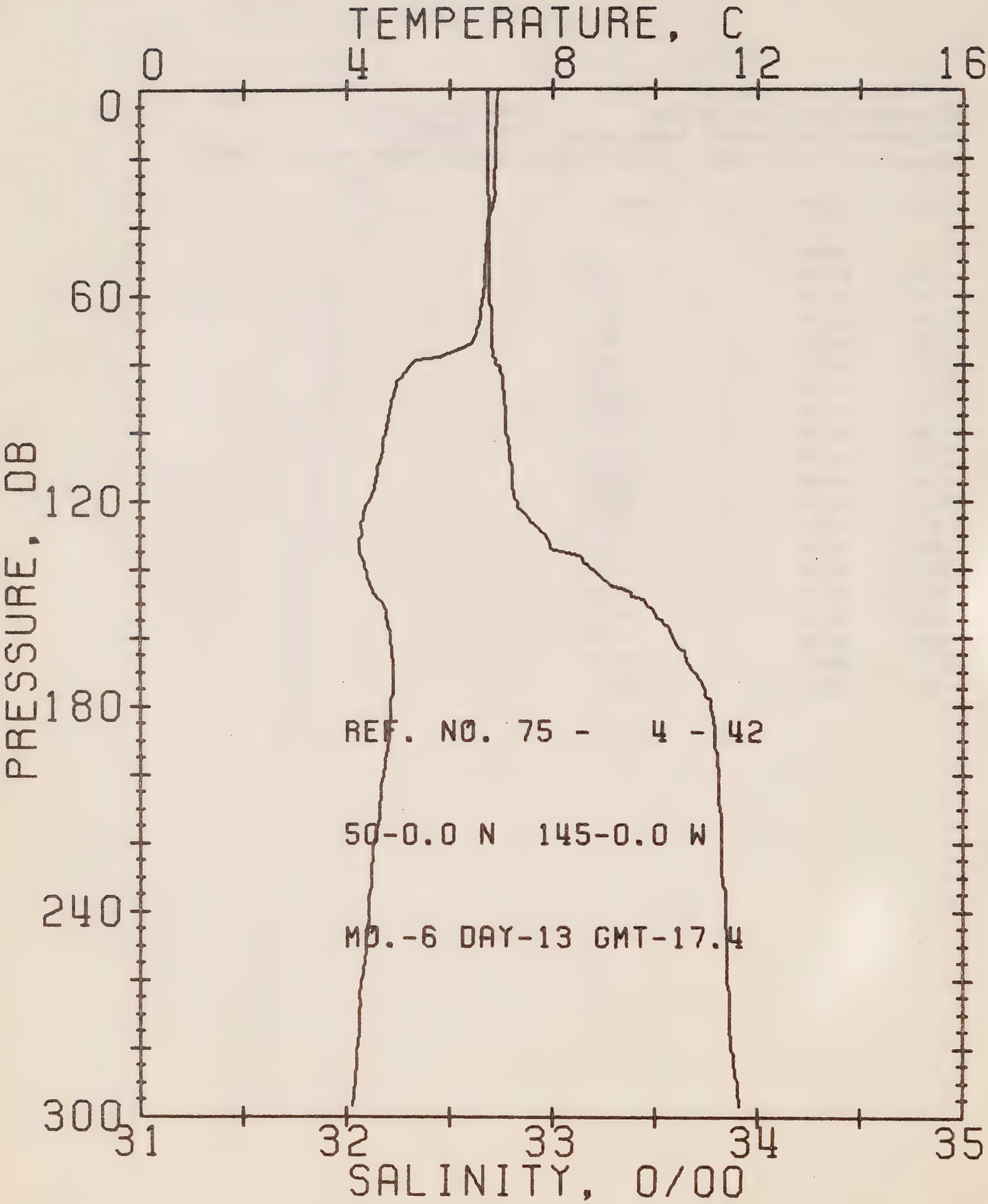
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 39 DATE 10/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 176 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	DEPTH
0	6.69	0
10	6.68	10
20	6.67	20
30	6.59	31
50	6.53	51
75	5.29	76
100	4.74	102
125	4.43	127
150	4.83	153
175	4.88	178
200	4.74	204
225	4.50	229
250	4.35	255


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
300
600
900
1200
1500
REF. NO. 75 - 4 - 40
50-0.0 N 145-0.0 W
MO.-6 DAY-12 GMT-17.3

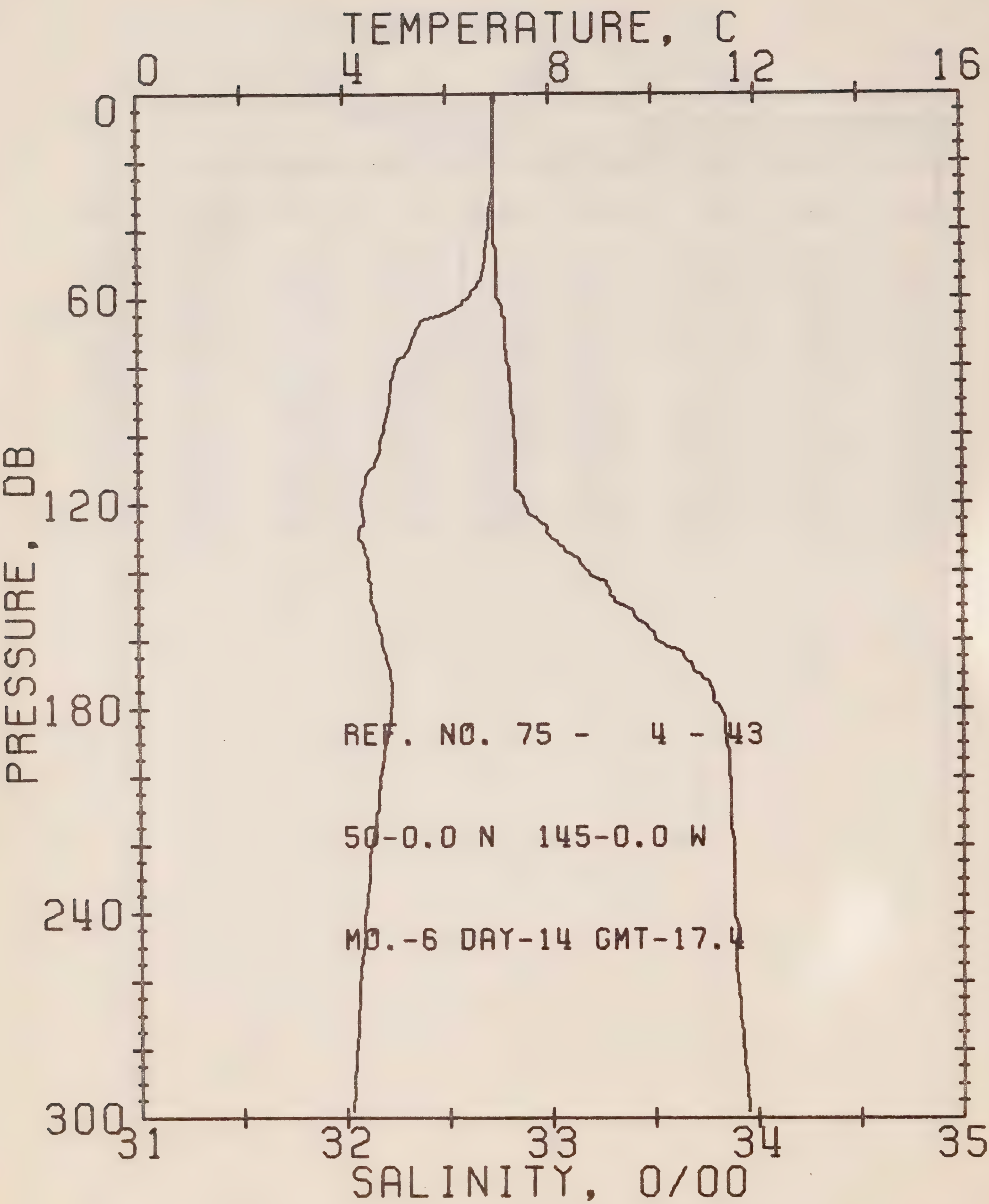
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 40 DATE 12/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 325 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	DEPTH
0	6.80	0
10	6.79	10
20	6.79	20
30	6.78	31
50	6.63	51
75	5.15	76
100	4.81	102
125	4.48	127
150	4.53	153
175	4.87	178
200	4.65	204
225	4.41	229
250	4.26	255
300	4.04	306
400	3.84	407
500	3.71	509
600	3.52	611
800	3.18	814
1000	2.83	1017
1200	2.61	1219


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 42
50-0.0 N 145-0.0 W
MO.-6 DAY-13 GMT-17.4
31
32
33
34
35
SALINITY, 0/00

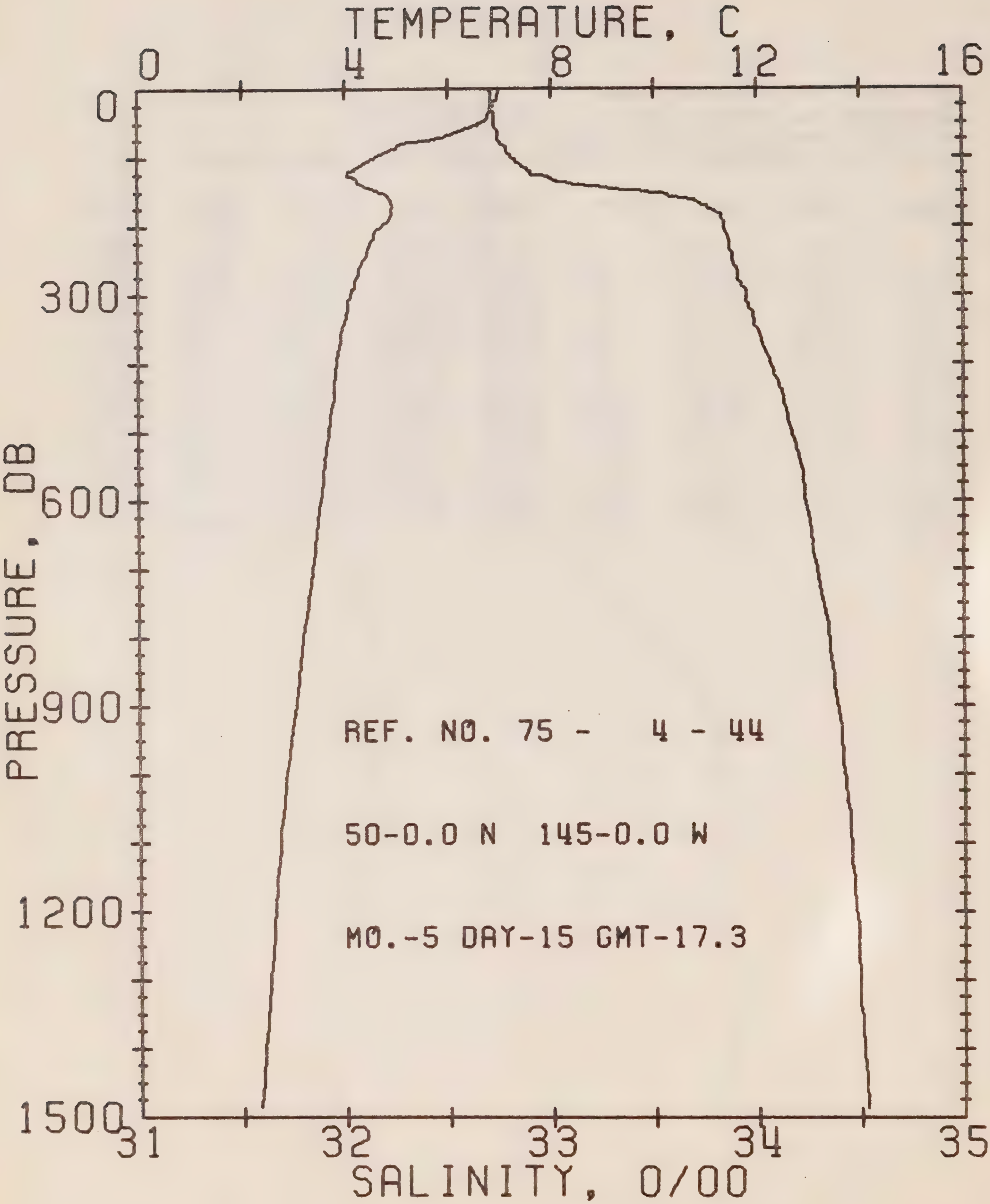
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 42 DATE 13/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.4
RESULTS OF STP CAST 185 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.94	32.68	0	25.63	237.2	0.0	0.0	1476.
10	6.90	32.68	10	25.63	237.0	0.24	0.01	1476.
20	6.87	32.68	20	25.64	236.8	0.47	0.05	1476.
30	6.87	32.68	30	25.64	236.9	0.71	0.11	1476.
50	6.68	32.69	50	25.67	234.0	1.18	0.30	1476.
75	6.26	32.70	75	25.73	228.4	1.76	0.67	1474.
100	4.76	32.77	99	25.96	206.5	2.29	1.14	1469.
125	4.31	32.88	124	26.10	193.7	2.80	1.72	1467.
150	4.71	33.45	149	26.50	155.3	3.23	2.33	1470.
175	4.91	33.74	174	26.71	136.0	3.60	2.93	1472.
200	4.71	33.81	199	26.79	128.8	3.93	3.56	1471.
225	4.51	33.82	223	26.82	126.2	4.25	4.25	1471.
250	4.37	33.85	248	26.86	122.6	4.56	5.00	1471.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 43
50-0.0 N 145-0.0 W
MO.-6 DAY-14 GMT-17.4
31
32
33
34
35
SALINITY, 0/00

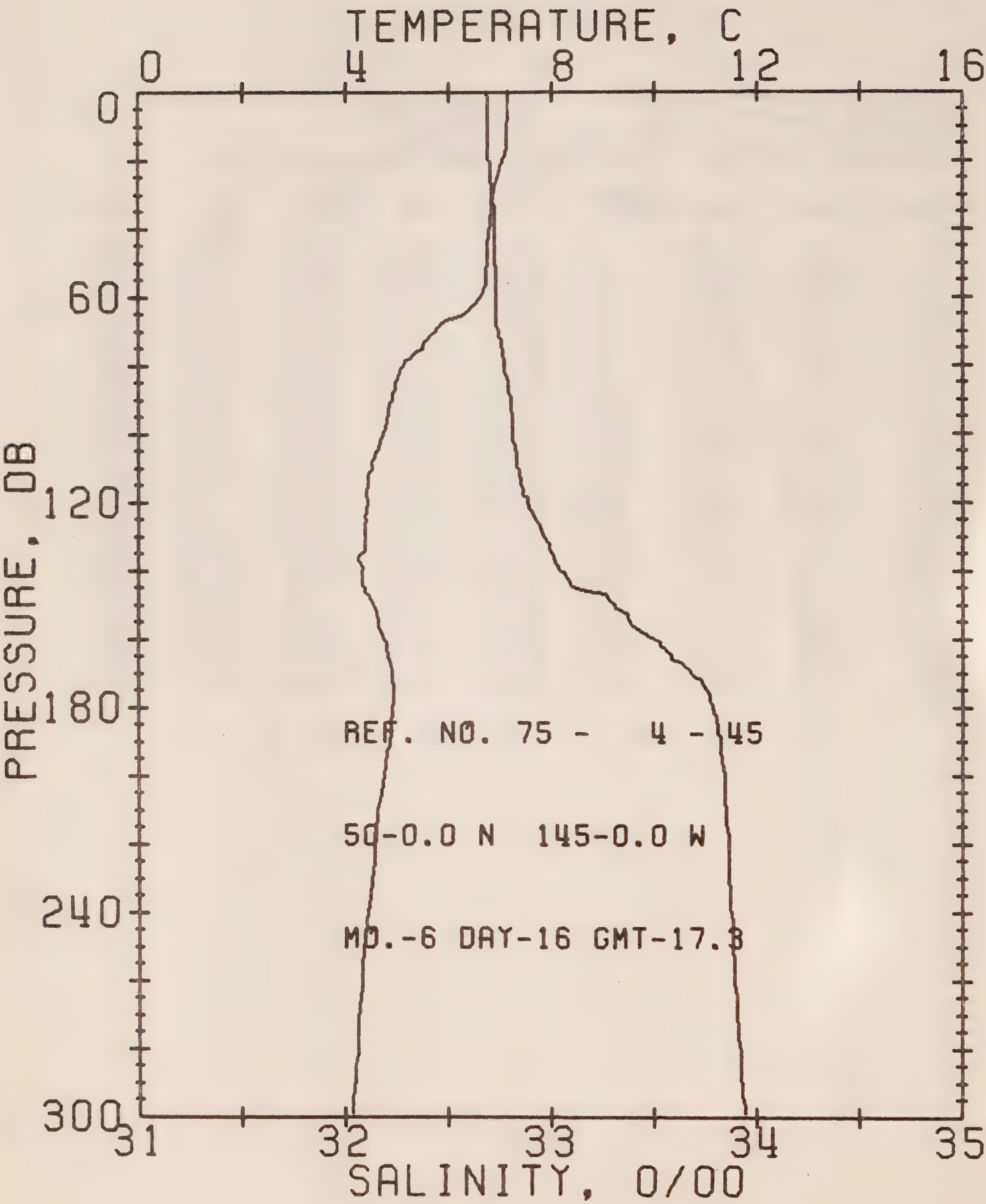
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 43 DATE 14/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.4
RESULTS OF STP CAST 181 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.97	32.73	0	25.66	233.8	0.0	0.0	1476.
10	6.92	32.73	10	25.67	233.6	0.23	0.01	1476.
20	6.92	32.73	20	25.67	233.7	0.47	0.05	1476.
30	6.88	32.73	30	25.67	233.3	0.70	0.11	1476.
50	6.72	32.74	50	25.70	230.8	1.17	0.30	1476.
75	5.26	32.78	75	25.91	210.9	1.72	0.65	1470.
100	4.72	32.82	99	26.00	202.3	2.23	1.10	1469.
125	4.36	32.94	124	26.14	189.7	2.73	1.67	1468.
150	4.57	33.36	149	26.45	160.6	3.16	2.28	1469.
175	4.91	33.78	174	26.75	132.8	3.53	2.89	1472.
200	4.67	33.86	199	26.83	124.7	3.85	3.50	1471.
225	4.45	33.88	223	26.87	121.1	4.16	4.16	1471.
250	4.33	33.89	248	26.89	119.2	4.46	4.89	1471.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 44
50-0.0 N 145-0.0 W
MO.-5 DAY-15 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

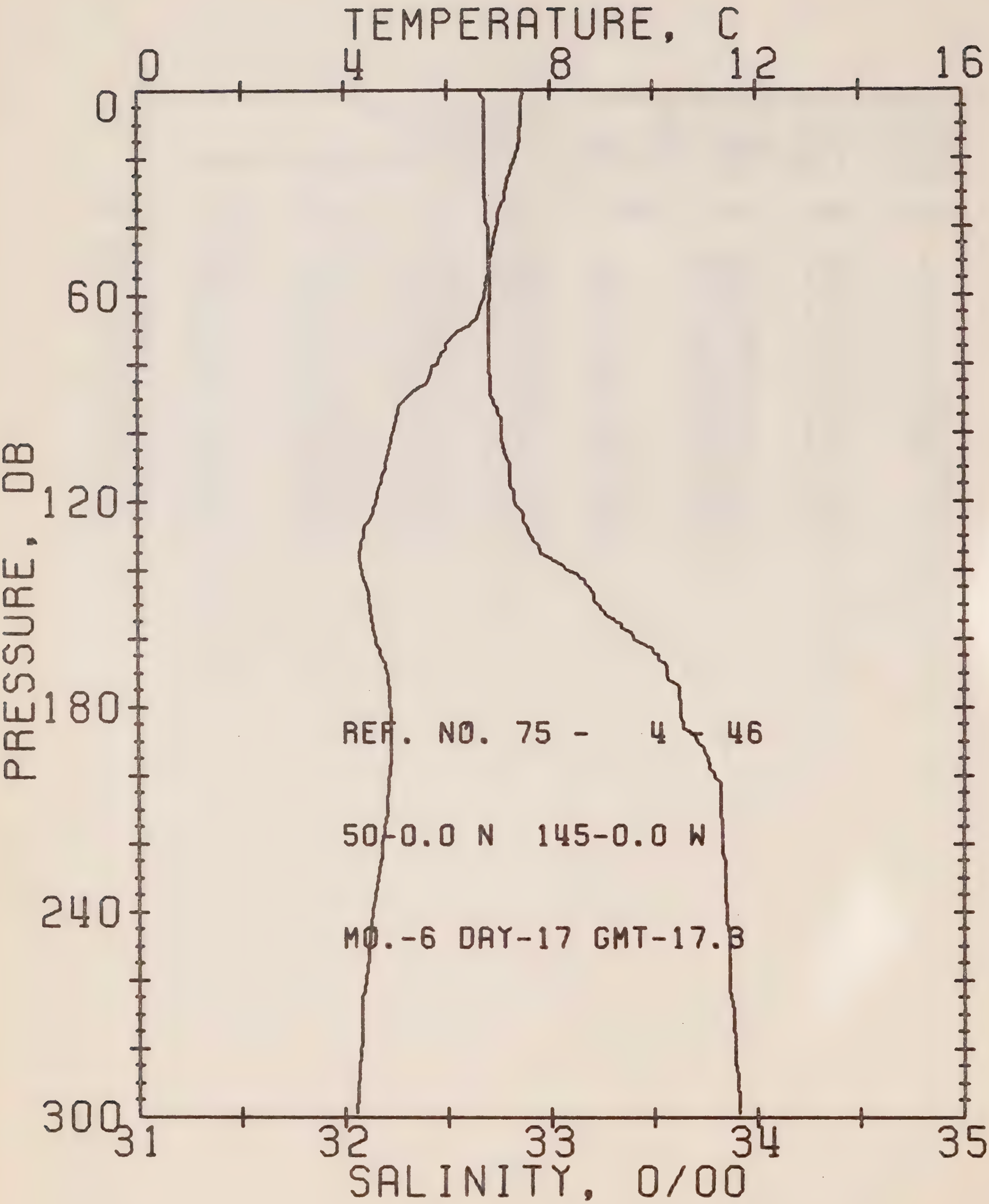
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 44   DATE 15/ 5/75
POSITION 50- 0.0N, 145- 0.0W   GMT 17.3
RESULTS OF STP CAST   278 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.98	32.70	0	25.64	236.2	0.0	0.0	1476.
10	6.97	32.71	10	25.65	235.6	0.24	0.01	1476.
20	6.89	32.71	20	25.66	234.9	0.47	0.05	1476.
30	6.83	32.71	30	25.66	234.2	0.71	0.11	1476.
50	6.67	32.72	50	25.69	231.6	1.17	0.30	1476.
75	5.61	32.74	75	25.84	217.8	1.74	0.66	1472.
100	4.59	32.81	99	26.01	201.6	2.26	1.12	1468.
125	4.03	32.90	124	26.14	189.5	2.74	1.68	1466.
150	4.66	33.46	149	26.52	154.0	3.18	2.29	1470.
175	4.92	33.76	174	26.73	134.2	3.54	2.88	1472.
200	4.72	33.84	199	26.81	126.7	3.86	3.50	1472.
225	4.49	33.87	223	26.86	122.3	4.17	4.17	1471.
250	4.34	33.88	248	26.89	120.1	4.48	4.91	1471.
300	4.11	33.95	298	26.97	112.8	5.06	6.54	1471.
400	3.84	34.06	397	27.08	102.5	6.14	10.38	1471.
500	3.69	34.16	496	27.18	94.0	7.12	14.86	1473.
600	3.52	34.23	595	27.25	88.0	8.02	19.91	1474.
800	3.18	34.34	793	27.37	77.5	9.67	31.67	1476.
1000	2.85	34.42	990	27.46	69.8	11.14	45.14	1478.
1200	2.61	34.47	1188	27.52	64.2	12.48	60.11	1480.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 45
50-0.0 N 145-0.0 W
MO.-6 DAY-16 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

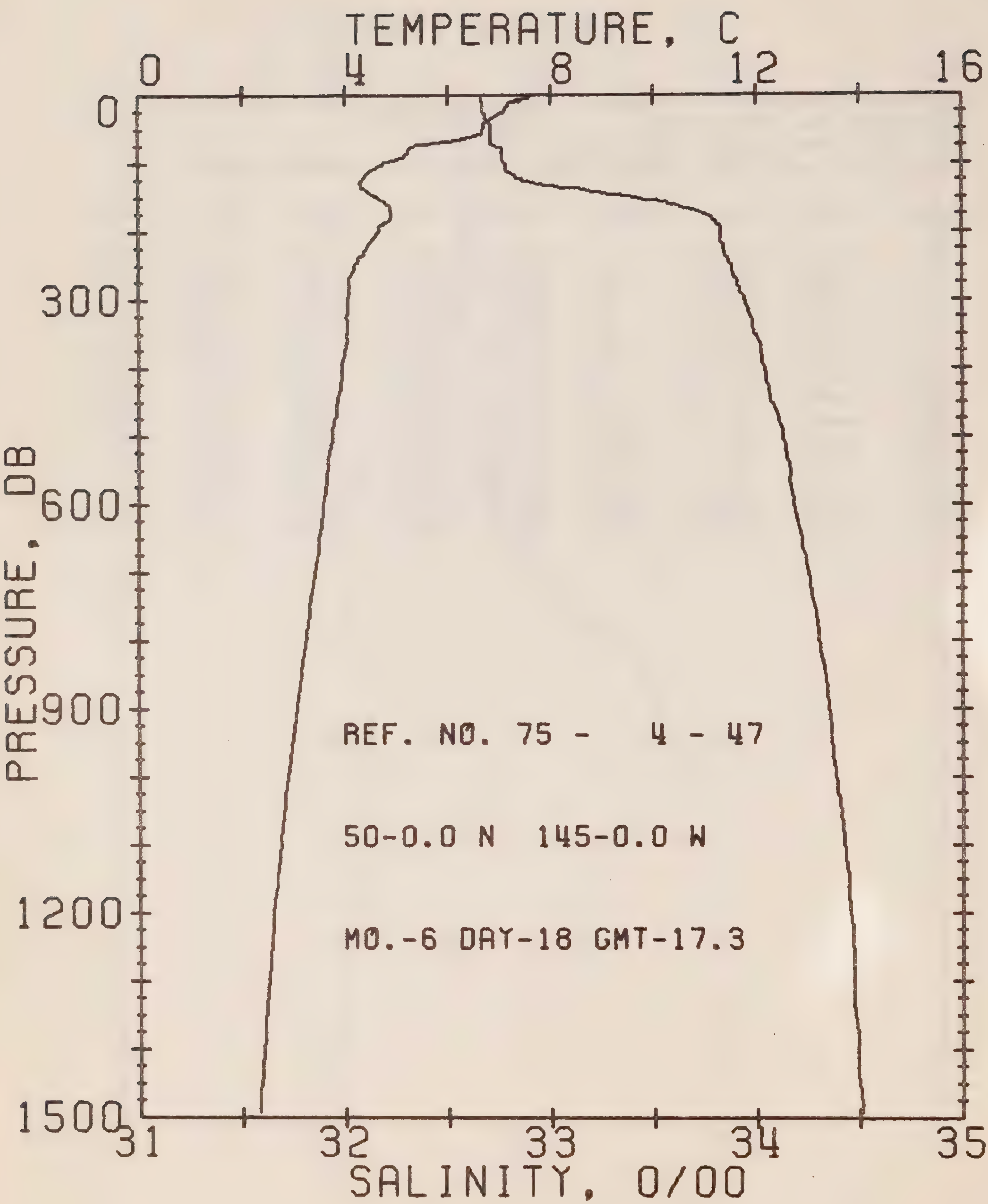
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 45 DATE 16/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 184 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.15	32.68	0	25.60	239.8	0.0	0.0	1477.
10	7.12	32.69	10	25.61	239.2	0.24	0.01	1477.
20	7.03	32.69	20	25.62	238.0	0.48	0.05	1476.
30	6.86	32.71	30	25.66	234.4	0.71	0.11	1476.
50	6.75	32.72	50	25.68	232.6	1.18	0.30	1476.
75	5.49	32.75	75	25.86	215.6	1.75	0.66	1471.
100	4.73	32.81	99	26.00	203.1	2.26	1.12	1469.
125	4.40	32.92	124	26.12	191.6	2.76	1.69	1468.
150	4.56	33.30	149	26.40	165.0	3.21	2.32	1469.
175	4.93	33.75	174	26.72	135.5	3.59	2.94	1472.
200	4.74	33.84	199	26.81	126.9	3.91	3.56	1472.
225	4.55	33.86	223	26.85	123.6	4.23	4.24	1471.
250	4.35	33.88	248	26.88	120.2	4.53	4.98	1471.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 46
50-0.0 N 145-0.0 W
MO.-6 DAY-17 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

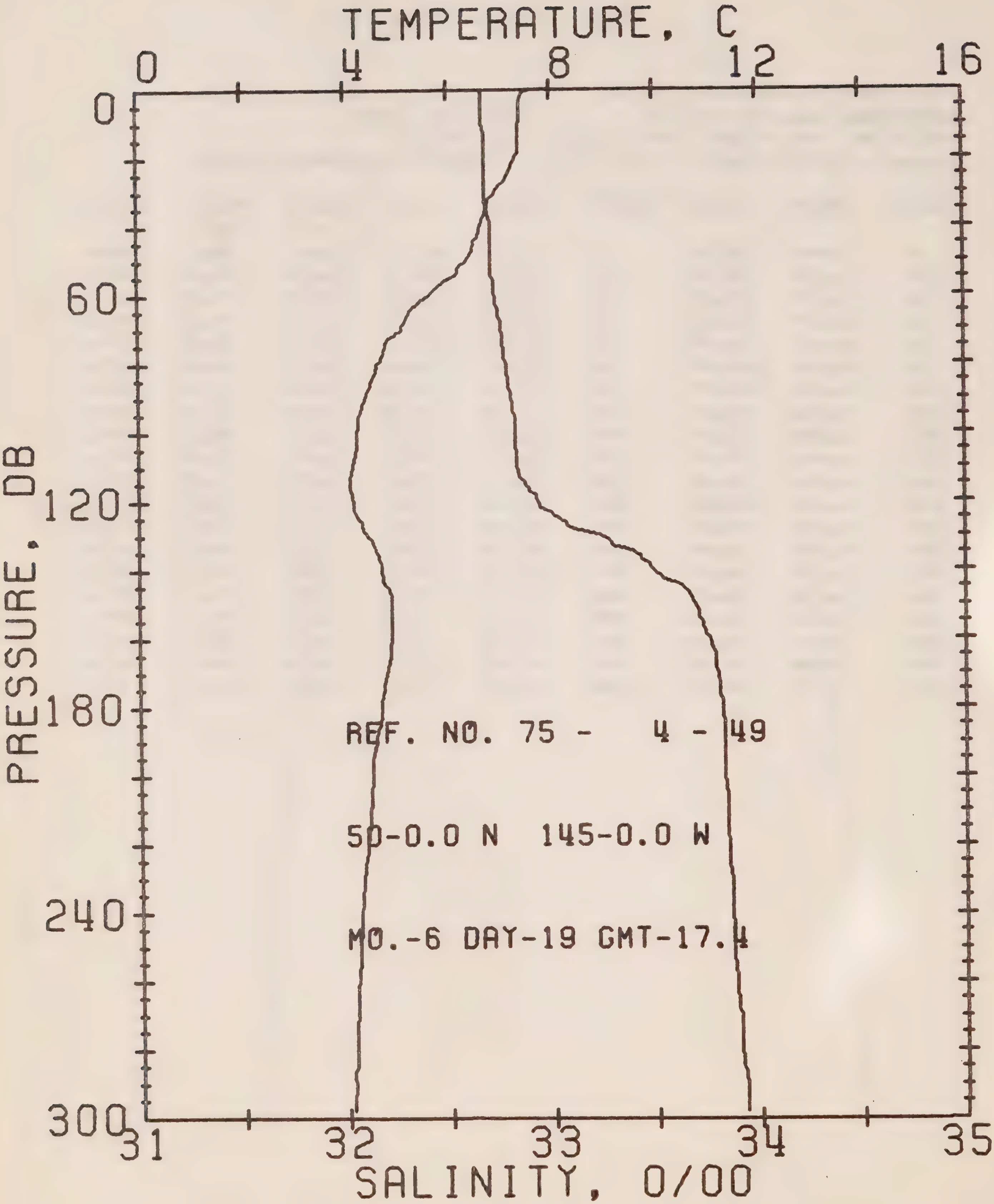
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 46 DATE 17/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 182 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.46	32.65	0	25.53	246.2	0.0	0.0	1478.
10	7.42	32.68	10	25.56	243.8	0.24	0.01	1478.
20	7.32	32.68	20	25.57	242.6	0.49	0.05	1478.
30	7.13	32.68	30	25.60	240.3	0.73	0.11	1477.
50	6.83	32.70	50	25.66	235.2	1.20	0.30	1476.
75	5.97	32.70	75	25.77	224.9	1.78	0.67	1473.
100	4.94	32.76	99	25.93	209.1	2.32	1.16	1469.
125	4.49	32.87	124	26.07	196.4	2.83	1.74	1468.
150	4.50	33.23	149	26.35	169.6	3.29	2.38	1469.
175	4.89	33.62	174	26.62	144.8	3.68	3.02	1472.
200	4.86	33.79	199	26.76	132.0	4.03	3.69	1472.
225	4.70	33.84	223	26.81	126.7	4.35	4.39	1472.
250	4.46	33.86	248	26.86	122.9	4.66	5.14	1471.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 47
50-0.0 N 145-0.0 W
MO.-6 DAY-18 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

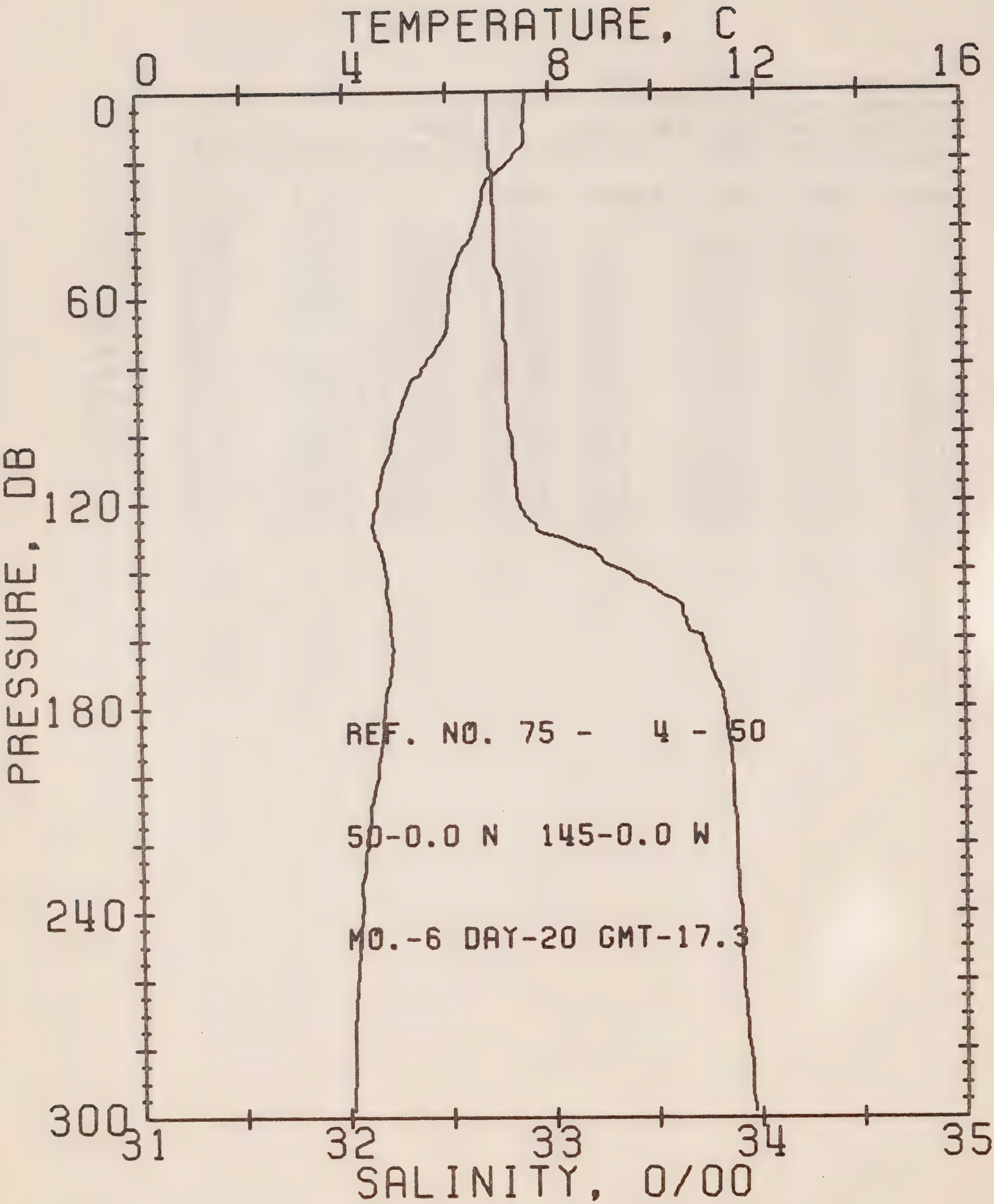
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 47 DATE 18/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 284 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.64	32.66	0	25.51	247.8	0.0	0.0	1478.
10	7.38	32.66	10	25.55	244.7	0.25	0.01	1478.
20	7.12	32.67	20	25.59	240.7	0.49	0.05	1477.
30	6.97	32.68	30	25.62	238.2	0.73	0.11	1476.
50	6.67	32.71	50	25.69	232.4	1.20	0.30	1476.
75	5.33	32.74	75	25.87	214.6	1.77	0.66	1471.
100	4.75	32.77	99	25.96	206.0	2.29	1.13	1469.
125	4.32	32.86	124	26.08	195.3	2.80	1.71	1467.
150	4.64	33.40	149	26.47	158.3	3.24	2.33	1470.
175	4.91	33.75	174	26.72	134.9	3.60	2.93	1472.
200	4.64	33.83	199	26.81	126.6	3.93	3.55	1471.
225	4.40	33.84	223	26.85	123.5	4.24	4.23	1471.
250	4.20	33.88	248	26.90	118.6	4.54	4.96	1470.
300	4.04	33.94	298	26.96	112.8	5.12	6.58	1470.
400	3.95	34.04	397	27.05	105.4	6.21	10.47	1472.
500	3.75	34.13	496	27.14	97.3	7.23	15.13	1473.
600	3.58	34.18	595	27.20	92.4	8.18	20.43	1474.
800	3.23	34.30	793	27.33	81.0	9.90	32.71	1476.
1000	2.88	34.38	990	27.43	72.6	11.44	46.73	1478.
1200	2.60	34.45	1188	27.51	65.7	12.81	62.14	1480.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 49
50-0.0 N 145-0.0 W
MO.-6 DAY-19 GMT-17.4
31
32
33
34
35
SALINITY, O/OO

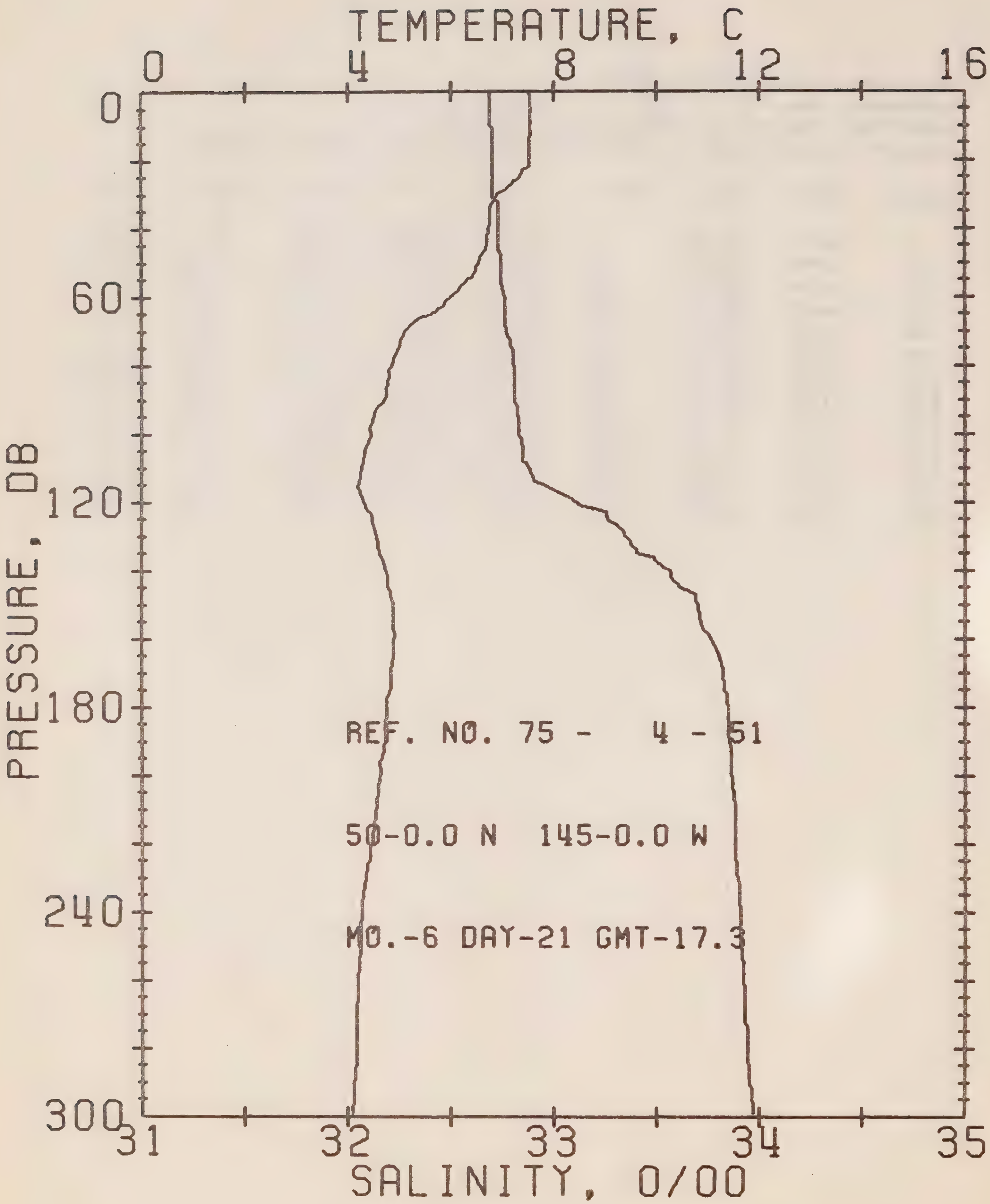
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 49 DATE 19/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.4
RESULTS OF STP CAST 171 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.63	32.67	0	25.52	246.9	0.0	0.0	1478.
10	7.40	32.67	10	25.56	244.3	0.24	0.01	1478.
20	7.32	32.68	20	25.57	242.6	0.49	0.05	1478.
30	6.92	32.68	30	25.63	237.5	0.73	0.11	1476.
50	6.35	32.71	50	25.73	228.4	1.19	0.30	1474.
75	4.77	32.76	75	25.95	206.8	1.74	0.64	1468.
100	4.21	32.82	99	26.06	197.0	2.24	1.09	1466.
125	4.27	33.04	124	26.23	181.3	2.72	1.64	1467.
150	4.89	33.69	149	26.67	139.3	3.11	2.19	1471.
175	4.71	33.81	174	26.79	128.6	3.45	2.74	1471.
200	4.47	33.83	199	26.83	124.7	3.76	3.35	1471.
225	4.34	33.85	223	26.86	122.1	4.07	4.02	1470.
250	4.21	33.87	248	26.89	119.5	4.37	4.75	1470.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
60
120
180
240
300
31
32
33
34
35
SALINITY, 0/00
REF. NO. 75 - 4 - 50
50-0.0 N 145-0.0 W
MO.-6 DAY-20 GMT-17.3

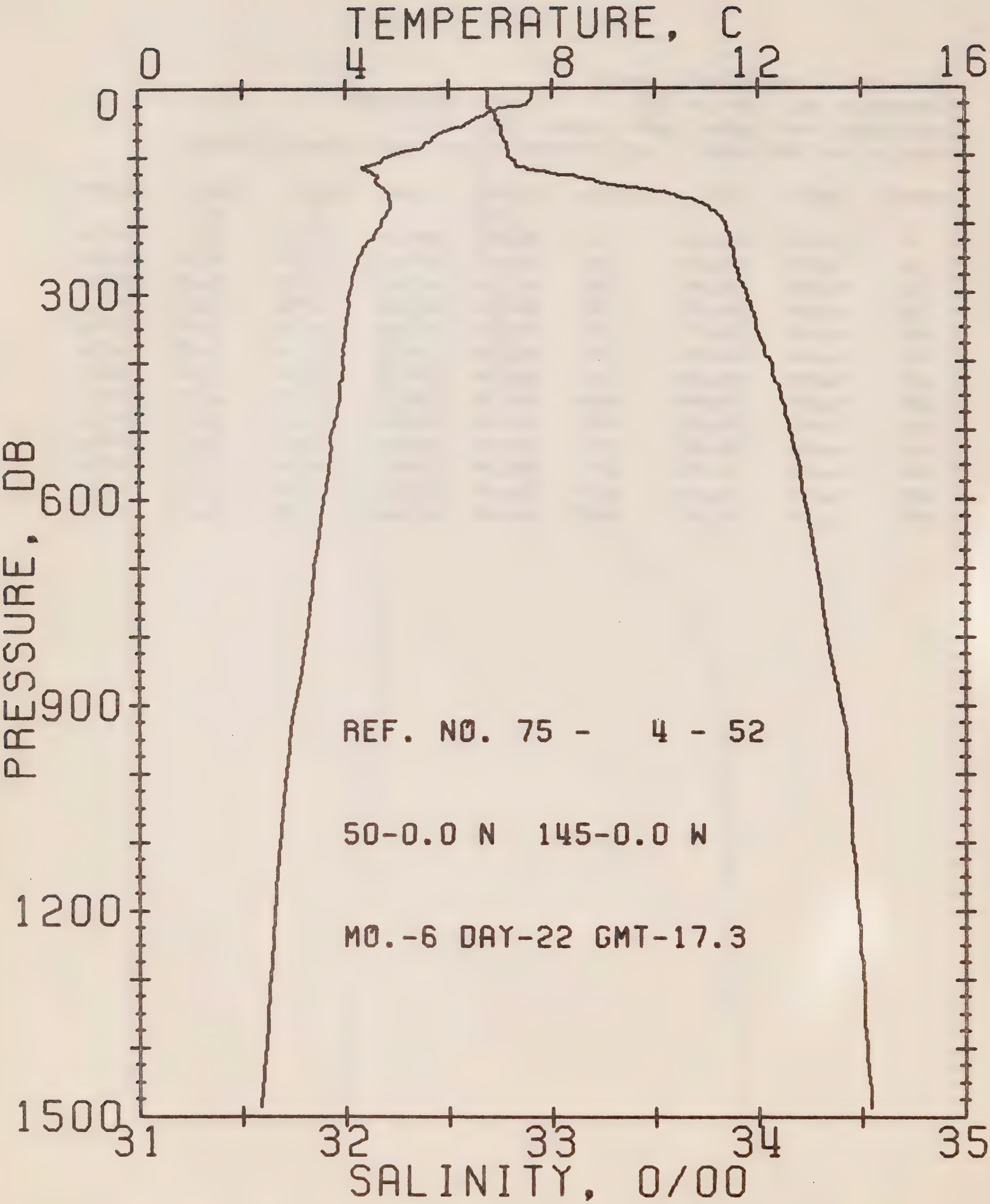
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 50 DATE 20/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 166 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.55	32.70	0	25.56	243.6	0.0	0.0	1478.
10	7.50	32.70	10	25.57	243.3	0.24	0.01	1478.
20	7.24	32.71	20	25.61	239.3	0.49	0.05	1477.
30	6.69	32.72	30	25.69	231.6	0.72	0.11	1475.
50	6.20	32.73	50	25.76	225.1	1.18	0.30	1474.
75	5.78	32.78	75	25.85	216.7	1.73	0.65	1472.
100	4.93	32.80	99	25.97	206.0	2.26	1.12	1469.
125	4.53	32.89	124	26.08	195.2	2.76	1.69	1468.
150	4.82	33.62	149	26.63	143.8	3.19	2.29	1471.
175	4.77	33.81	174	26.79	128.9	3.53	2.85	1471.
200	4.58	33.87	199	26.85	123.0	3.84	3.45	1471.
225	4.32	33.88	223	26.89	119.7	4.14	4.11	1470.
250	4.18	33.90	248	26.92	116.9	4.44	4.82	1470.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 51
50-0.0 N 145-0.0 W
MO.-6 DAY-21 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

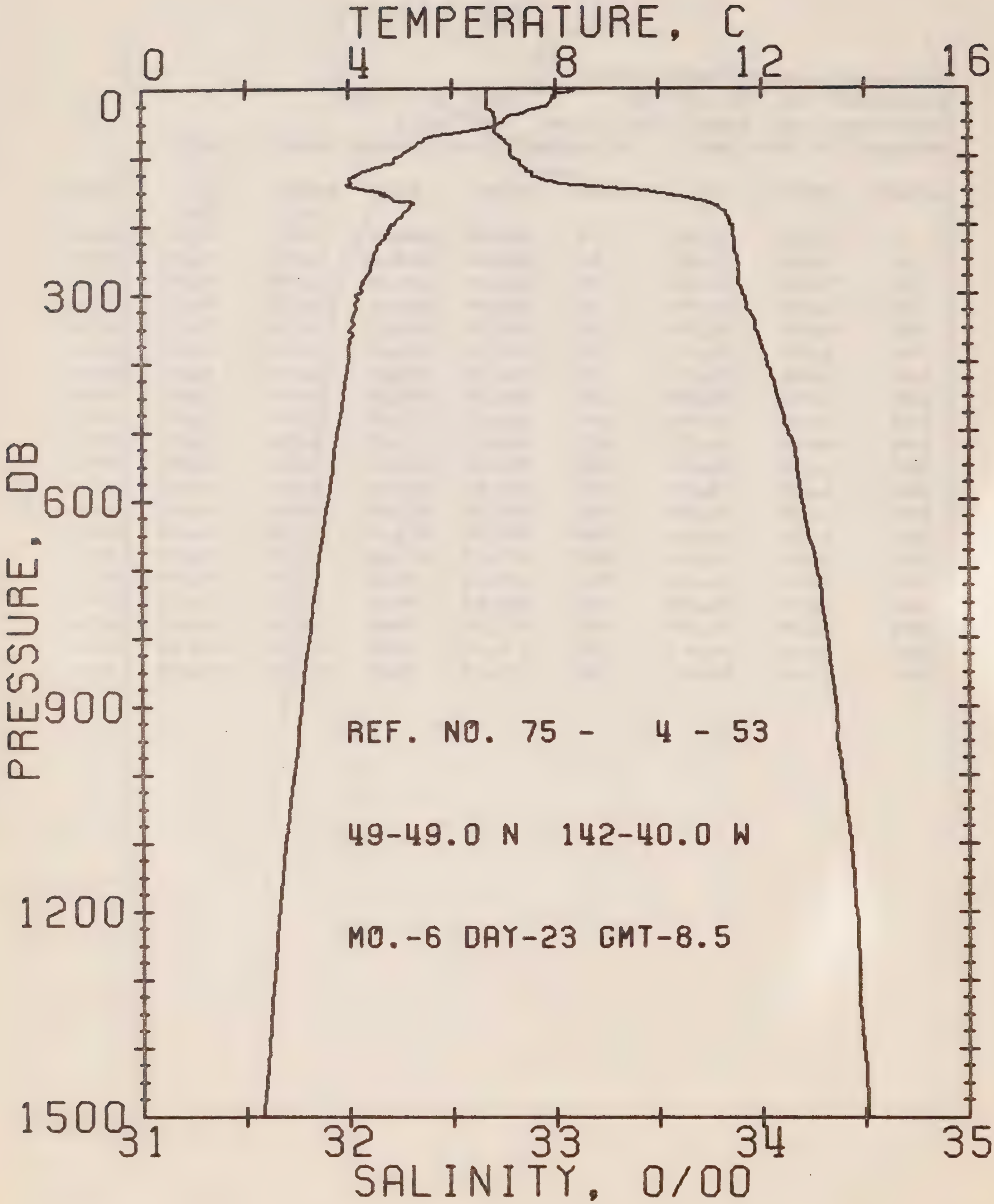
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 51 DATE 21/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 159 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.51	32.69	0	25.56	243.8	0.0	0.0	1478.
10	7.54	32.69	10	25.55	244.6	0.24	0.01	1478.
20	7.53	32.70	20	25.56	243.9	0.49	0.05	1478.
30	6.88	32.70	30	25.65	235.5	0.73	0.11	1476.
50	6.53	32.74	50	25.73	228.4	1.19	0.30	1475.
75	4.96	32.79	75	25.96	206.5	1.74	0.65	1469.
100	4.45	32.83	99	26.04	198.7	2.24	1.10	1467.
125	4.48	33.26	124	26.38	166.9	2.71	1.63	1469.
150	4.87	33.70	149	26.68	138.3	3.09	2.16	1471.
175	4.81	33.83	174	26.79	128.2	3.42	2.71	1472.
200	4.61	33.86	199	26.84	123.7	3.74	3.31	1471.
225	4.40	33.88	223	26.88	120.2	4.04	3.97	1471.
250	4.23	33.91	248	26.92	116.6	4.34	4.68	1470.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 52
50-0.0 N 145-0.0 W
MO.-6 DAY-22 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

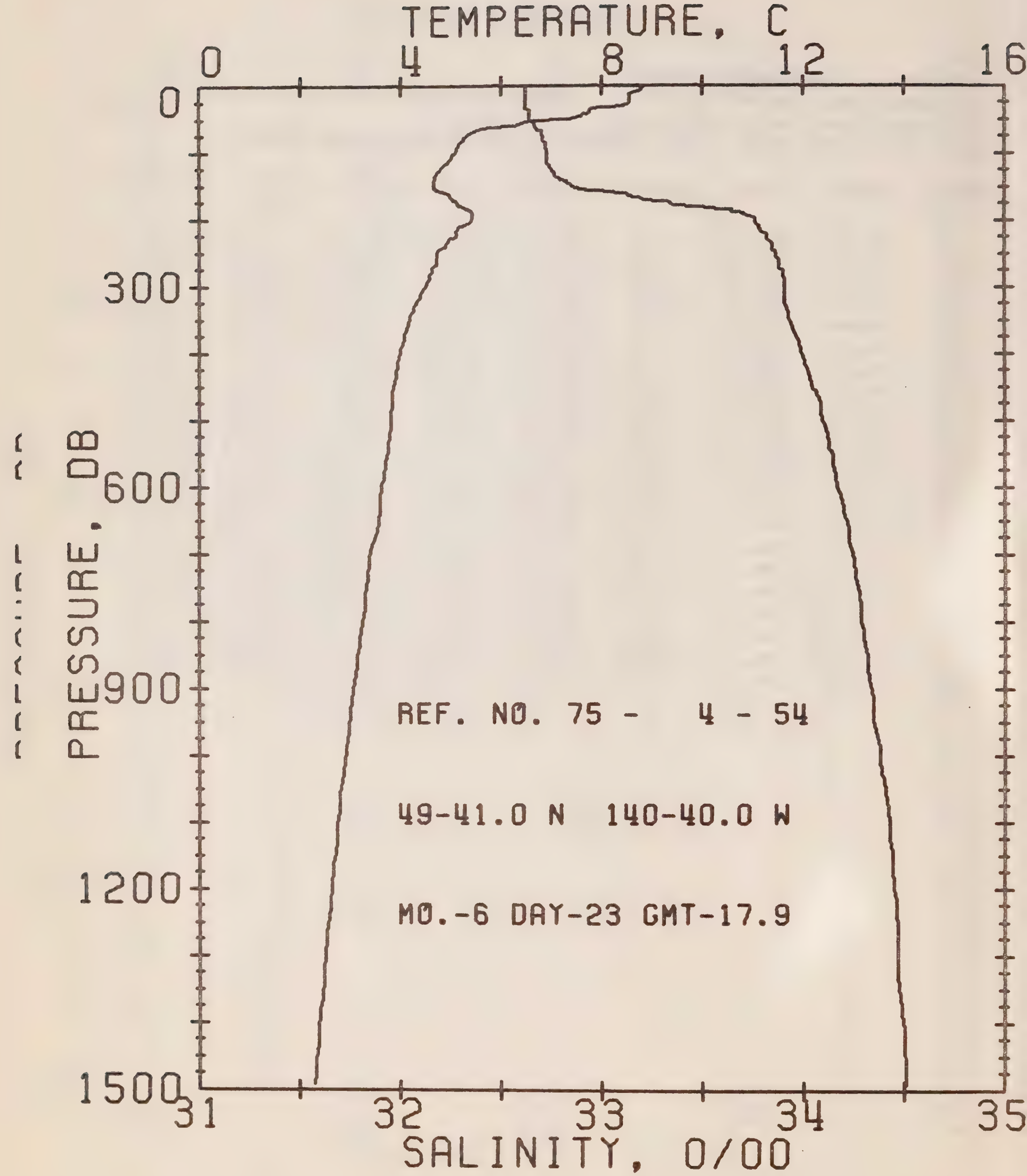
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 52 DATE 22/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 271 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.60	32.68	0	25.54	245.8	0.0	0.0	1478.
10	7.62	32.69	10	25.54	245.6	0.25	0.01	1479.
20	7.53	32.69	20	25.55	244.6	0.49	0.05	1478.
30	6.93	32.70	30	25.64	236.2	0.73	0.11	1476.
50	6.39	32.74	50	25.74	226.7	1.19	0.30	1474.
75	5.68	32.77	75	25.86	216.3	1.75	0.65	1472.
100	4.81	32.79	99	25.97	205.5	2.28	1.12	1469.
125	4.58	33.05	124	26.20	183.8	2.77	1.69	1469.
150	4.80	33.50	149	26.53	152.5	3.19	2.27	1471.
175	4.86	33.77	174	26.74	133.5	3.54	2.86	1472.
200	4.68	33.84	199	26.82	126.3	3.86	3.47	1471.
225	4.42	33.87	223	26.87	121.4	4.17	4.14	1471.
250	4.24	33.88	248	26.90	118.9	4.47	4.87	1470.
300	4.07	33.94	298	26.96	112.9	5.05	6.49	1471.
400	3.96	34.06	397	27.07	103.8	6.14	10.37	1472.
500	3.74	34.15	496	27.16	95.5	7.14	14.94	1473.
600	3.57	34.22	595	27.23	89.4	8.07	20.12	1474.
800	3.24	34.33	793	27.35	79.0	9.74	32.06	1476.
1000	2.84	34.43	990	27.47	68.5	11.20	45.41	1478.
1200	2.62	34.48	1186	27.53	63.9	12.53	60.23	1480.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 53
49-49.0 N 142-40.0 W
MO.-6 DAY-23 GMT-8.5
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 53 DATE 23/ 6/75
POSITION 49-49.0N, 142-40.0W GMT 8.5
RESULTS OF STP CAST 261 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.39	32.67	0	25.41	257.4	0.0	0.0	1481.
10	7.96	32.67	10	25.48	251.8	0.26	0.01	1480.
20	7.91	32.67	20	25.48	251.2	0.51	0.05	1480.
30	7.60	32.67	30	25.53	247.2	0.76	0.12	1479.
50	6.96	32.71	50	25.65	236.1	1.24	0.31	1477.
75	5.46	32.75	75	25.87	215.3	1.80	0.67	1471.
100	4.96	32.79	99	25.95	207.0	2.33	1.14	1470.
125	4.17	32.89	124	26.12	191.6	2.83	1.71	1467.
150	4.59	33.47	149	26.53	152.5	3.27	2.33	1470.
175	5.17	33.80	174	26.73	134.2	3.62	2.91	1473.
200	4.82	33.86	199	26.82	126.3	3.95	3.53	1472.
225	4.62	33.87	223	26.85	123.6	4.26	4.21	1472.
250	4.45	33.88	248	26.87	121.3	4.57	4.95	1471.
300	4.13	33.91	298	26.93	116.1	5.16	6.62	1471.
400	3.98	34.03	397	27.04	106.7	6.28	10.58	1472.
500	3.77	34.12	496	27.14	97.9	7.30	15.27	1473.
600	3.58	34.19	595	27.21	91.5	8.24	20.54	1474.
800	3.22	34.32	793	27.34	80.0	9.95	32.66	1476.
1000	2.92	34.39	990	27.43	72.6	11.47	46.62	1478.
1200	2.63	34.45	1188	27.51	65.8	12.85	62.04	1480.
1500	2.31	34.51	1484	27.58	59.6	14.73	87.90	1484.


TEMPERATURE, C
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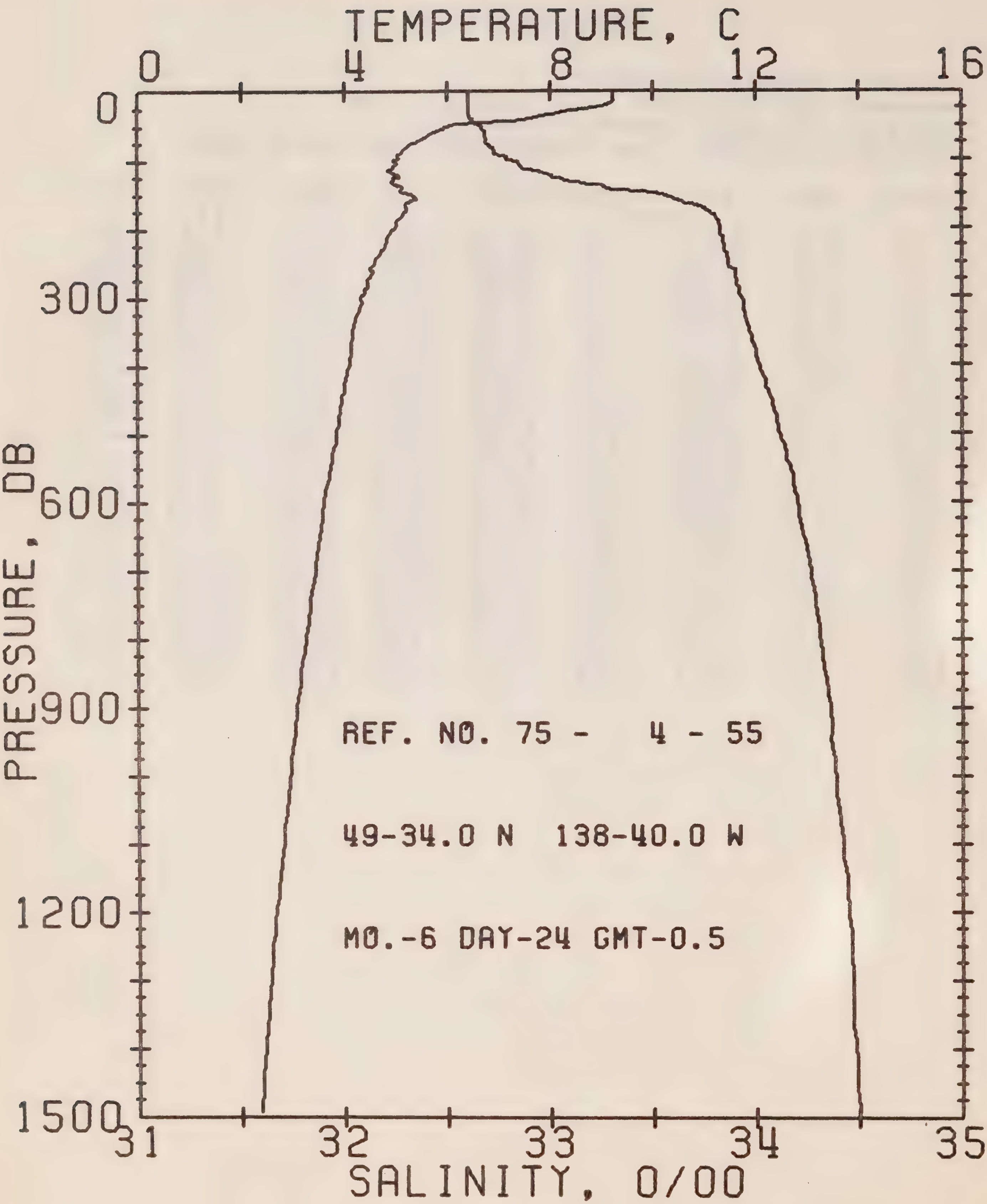
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 54
49-41.0 N 140-40.0 W
MO.-6 DAY-23 GMT-17.9
31
32
33
34
35
SALINITY, 0/00

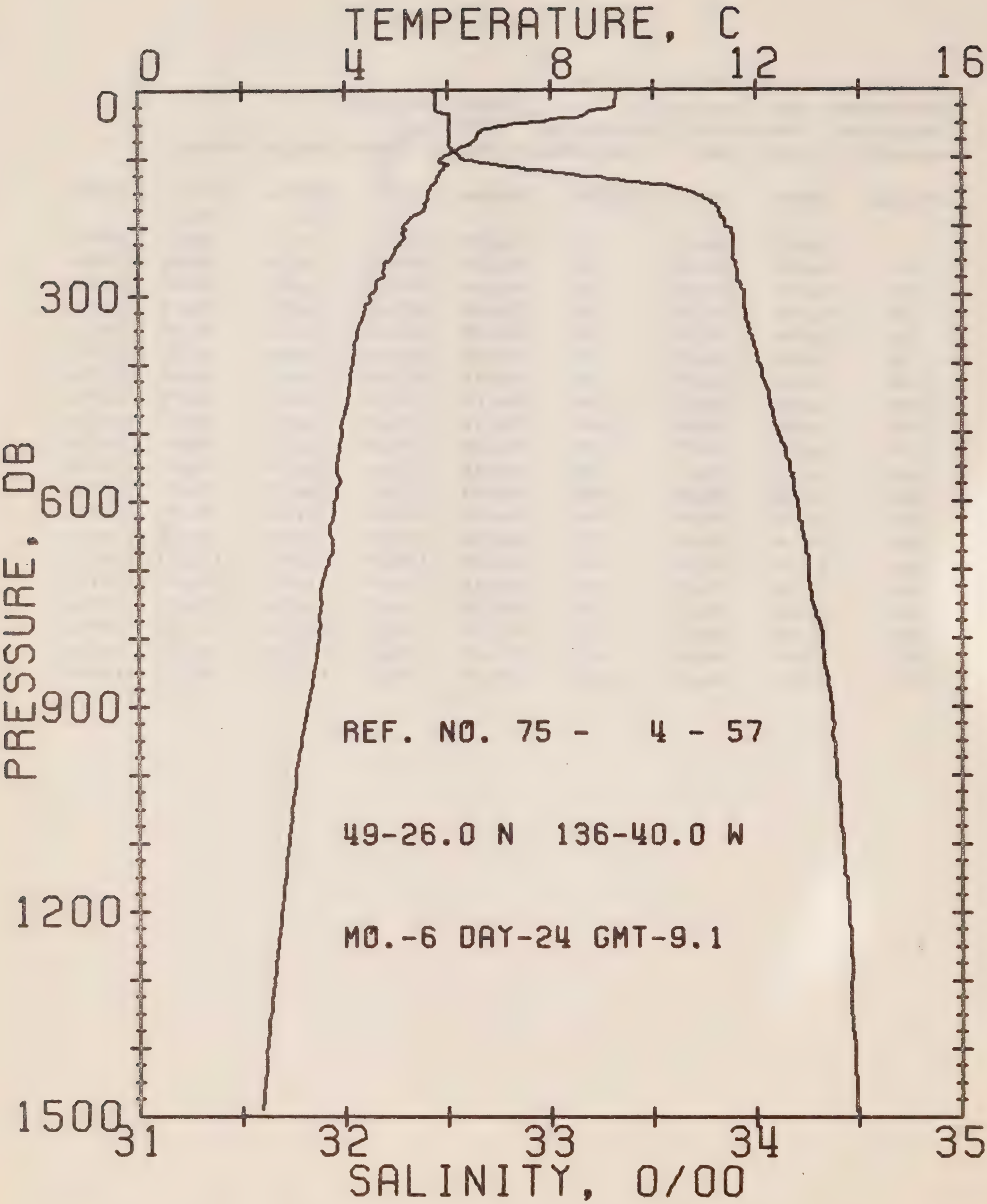
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 54 DATE 23/ 6/75
POSITION 49-41.0N, 140-40.0W GMT 17.9
RESULTS OF STP CAST 315 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	8.27	32.62	0	25.39	259.4	0.0	0.0	1481.
10	8.69	32.62	10	25.33	265.9	0.27	0.01	1483.
20	8.55	32.62	20	25.35	264.0	0.53	0.05	1482.
30	8.46	32.62	30	25.36	262.8	0.80	0.12	1482.
50	7.36	32.64	50	25.54	246.4	1.30	0.33	1478.
75	5.31	32.71	75	25.85	216.7	1.87	0.69	1470.
100	5.08	32.73	99	25.89	212.9	2.40	1.17	1470.
125	4.79	32.75	124	25.94	208.8	2.93	1.77	1469.
150	4.66	32.85	149	26.04	199.4	3.44	2.49	1469.
175	5.14	33.34	174	26.37	168.5	3.90	3.25	1472.
200	5.42	33.76	199	26.67	140.6	4.28	3.97	1474.
225	5.12	33.82	223	26.75	133.0	4.62	4.71	1474.
250	4.73	33.86	248	26.83	125.9	4.94	5.49	1472.
300	4.50	33.91	298	26.89	120.0	5.56	7.21	1472.
400	3.99	33.99	397	27.01	109.1	6.71	11.30	1472.
500	3.81	34.10	496	27.11	100.4	7.75	16.07	1473.
600	3.63	34.17	595	27.19	93.8	8.72	21.49	1474.
800	3.24	34.29	793	27.32	82.1	10.46	33.88	1476.
1000	2.93	34.38	990	27.42	73.4	12.01	48.08	1478.
1200	2.63	34.45	1188	27.50	66.1	13.39	63.56	1480.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 55
49-34.0 N 138-40.0 W
MO.-6 DAY-24 GMT-0.5
31
32
33
34
35
SALINITY, 0/00

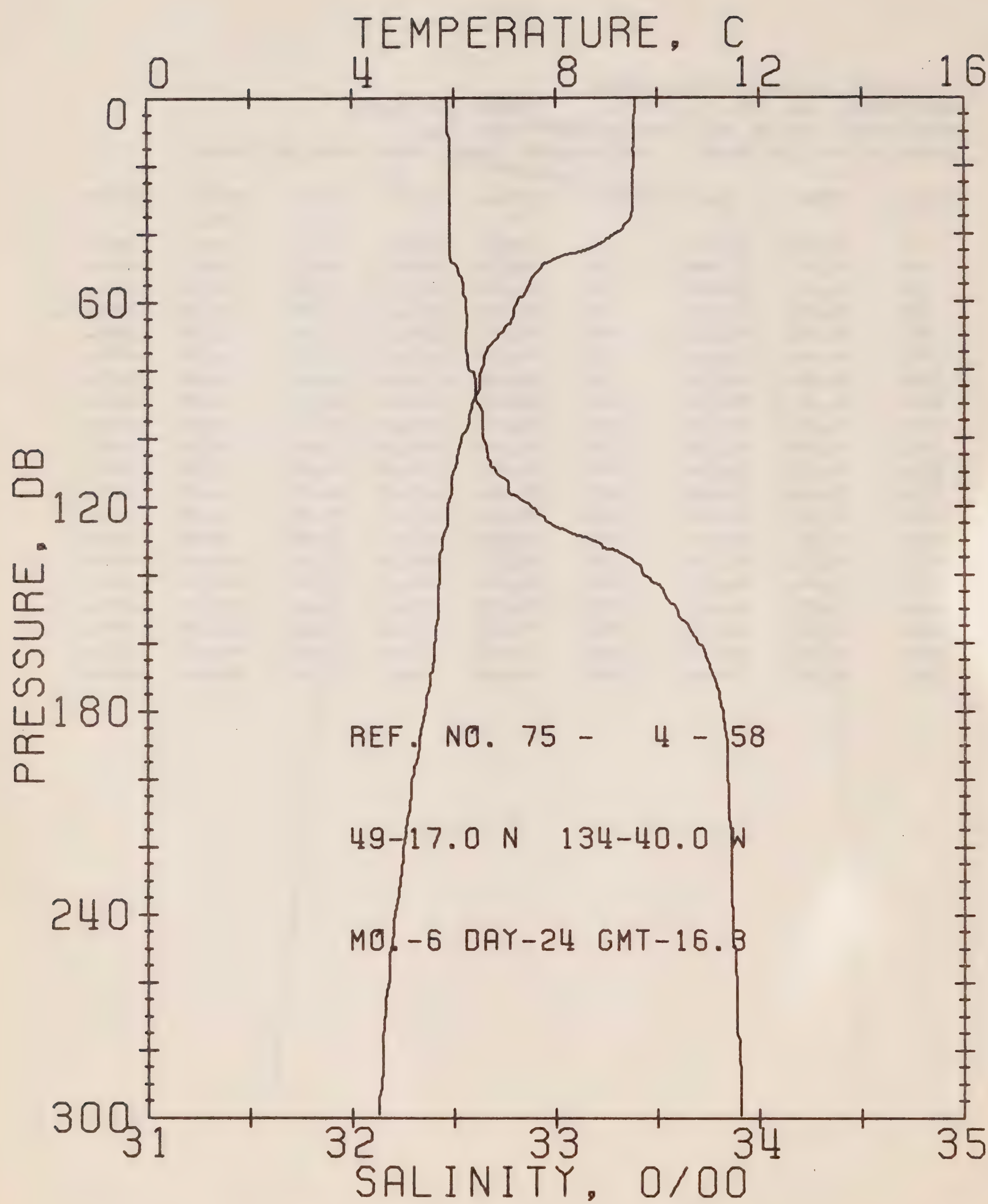
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 55 DATE 24/ 6/75
POSITION 49-34.0N, 138-40.0W GMT 0.5
RESULTS OF STP CAST 348 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	9.23	32.59	0	25.22	275.6	0.0	0.0	1484.
10	9.23	32.60	10	25.23	275.3	0.28	0.01	1485.
20	9.13	32.60	20	25.24	273.9	0.55	0.06	1484.
30	8.30	32.60	30	25.37	262.1	0.82	0.12	1481.
50	6.05	32.66	50	25.72	228.5	1.32	0.33	1473.
75	5.40	32.69	75	25.83	219.1	1.88	0.68	1471.
100	5.01	32.79	99	25.95	207.6	2.41	1.16	1470.
125	5.05	33.01	124	26.12	191.8	2.91	1.73	1471.
150	5.29	33.52	149	26.49	156.5	3.35	2.34	1473.
175	5.21	33.77	174	26.70	137.2	3.71	2.94	1473.
200	4.98	33.83	199	26.78	130.4	4.04	3.58	1473.
225	4.80	33.85	223	26.81	127.1	4.37	4.28	1472.
250	4.59	33.87	248	26.85	123.6	4.68	5.03	1472.
300	4.34	33.93	298	26.92	117.0	5.28	6.72	1472.
400	4.10	34.01	397	27.02	108.7	6.41	10.73	1472.
500	3.83	34.11	496	27.12	99.4	7.44	15.47	1473.
600	3.60	34.20	595	27.22	91.2	8.39	20.79	1474.
800	3.25	34.31	793	27.34	80.6	10.10	32.96	1476.
1000	2.94	34.39	990	27.43	73.0	11.63	46.95	1478.
1200	2.66	34.45	1188	27.50	66.5	13.03	62.58	1480.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 57
49-26.0 N 136-40.0 W
MO.-6 DAY-24 GMT-9.1
31
32
33
34
35
SALINITY, 0/00

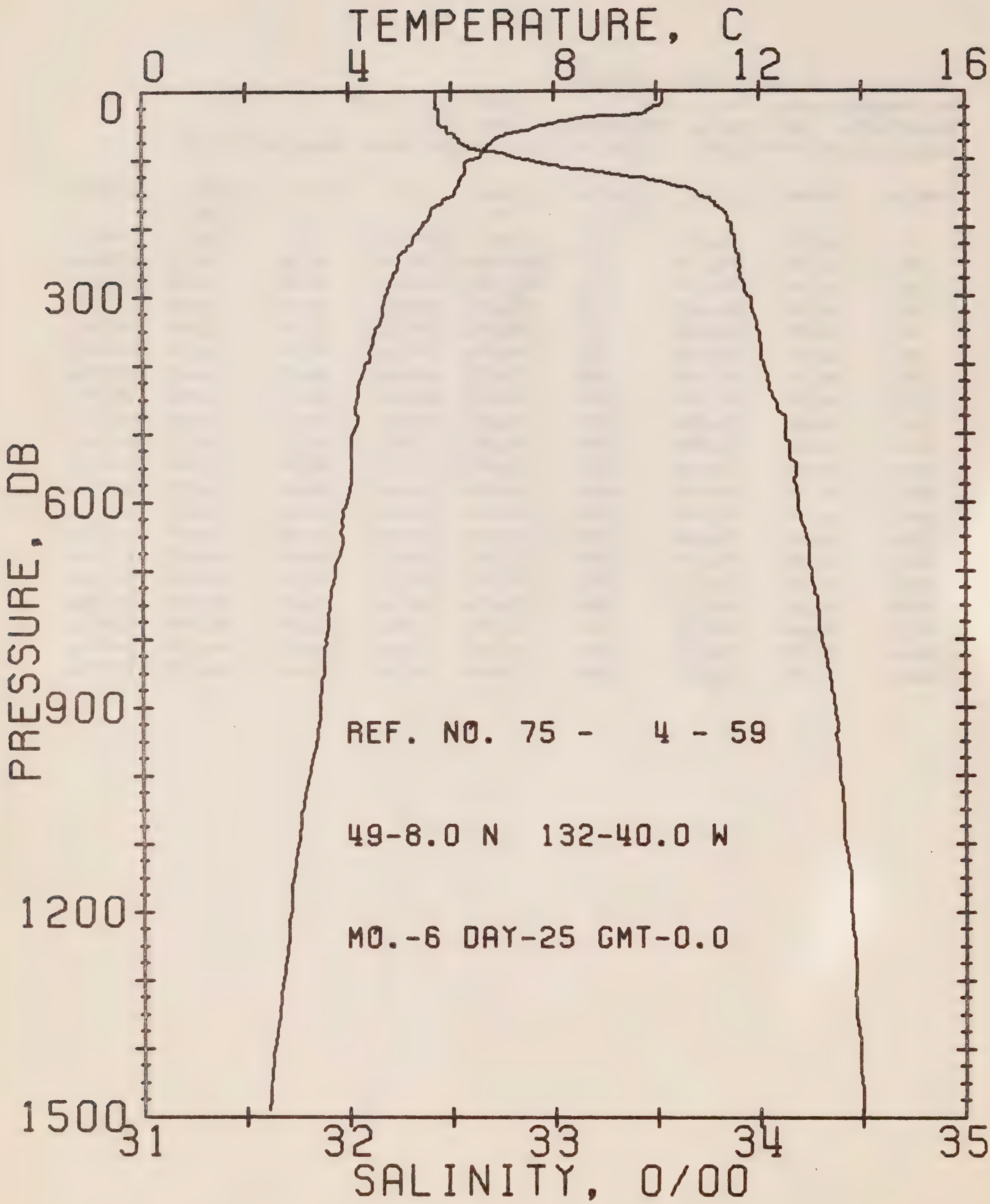
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 57 DATE 24/ 6/75
POSITION 49-26.0N, 136-40.0W GMT 9.1
RESULTS OF STP CAST 399 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.38	32.43	0	25.07	289.8	0.0	0.0	1485.
10	9.27	32.44	10	25.10	287.8	0.29	0.01	1485.
20	9.25	32.44	20	25.10	287.7	0.58	0.06	1485.
30	8.85	32.44	30	25.16	281.9	0.86	0.13	1483.
50	7.25	32.51	50	25.45	254.8	1.40	0.35	1478.
75	6.49	32.51	75	25.55	245.4	2.02	0.74	1475.
100	5.89	32.56	99	25.67	234.8	2.62	1.28	1473.
125	5.80	33.17	124	26.16	188.4	3.16	1.89	1474.
150	5.62	33.70	149	26.60	146.9	3.57	2.47	1474.
175	5.54	33.82	174	26.70	137.3	3.92	3.05	1475.
200	5.13	33.86	199	26.78	129.8	4.26	3.69	1473.
225	5.06	33.89	223	26.81	127.0	4.58	4.38	1473.
250	4.86	33.90	248	26.84	124.3	4.89	5.15	1473.
300	4.49	33.94	298	26.92	117.7	5.50	6.85	1472.
400	4.15	34.01	397	27.01	109.3	6.64	10.90	1473.
500	3.94	34.10	496	27.10	101.2	7.69	15.71	1474.
600	3.79	34.20	595	27.19	93.4	8.66	21.14	1475.
800	3.49	34.32	793	27.32	82.6	10.42	33.71	1477.
1000	3.04	34.39	990	27.42	73.8	11.98	47.97	1478.
1200	2.75	34.45	1188	27.49	67.5	13.40	63.80	1481.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 58
49-17.0 N 134-40.0 W
MO.-6 DAY-24 GMT-16.8
31
32
33
34
35
SALINITY, 0/00

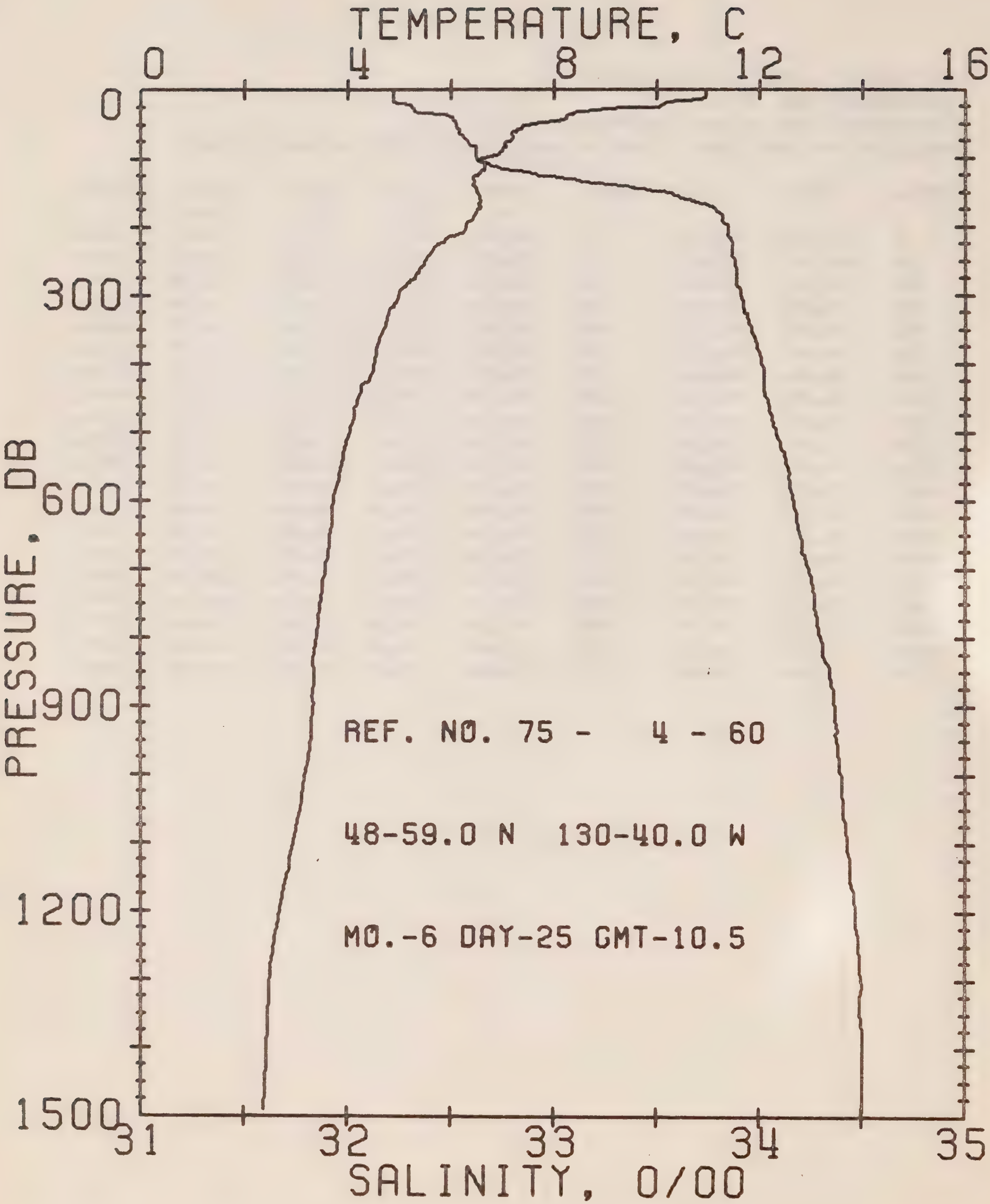
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 58 DATE 24/ 6/75
POSITION 49-17.0N, 134-40.0W GMT 16.3
RESULTS OF STP CAST 364 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.57	32.47	0	25.07	289.7	0.0	0.0	1486.
10	9.55	32.47	10	25.08	289.8	0.29	0.01	1486.
20	9.54	32.48	20	25.09	289.1	0.58	0.06	1486.
30	9.51	32.48	30	25.09	288.8	0.87	0.13	1486.
50	7.70	32.52	50	25.40	260.0	1.43	0.36	1479.
75	6.62	32.56	75	25.58	243.0	2.05	0.76	1476.
100	6.13	32.64	99	25.70	231.6	2.65	1.29	1474.
125	5.87	32.98	124	26.00	203.4	3.20	1.92	1474.
150	5.67	33.59	149	26.50	155.7	3.63	2.52	1474.
175	5.45	33.80	174	26.70	137.7	4.00	3.12	1474.
200	5.15	33.84	199	26.76	131.5	4.33	3.76	1473.
225	4.97	33.86	223	26.80	128.2	4.66	4.47	1473.
250	4.75	33.88	248	26.84	124.6	4.97	5.23	1473.
300	4.64	34.00	298	26.95	114.6	5.58	6.94	1473.
400	4.33	34.09	397	27.05	105.7	6.69	10.87	1474.
500	4.07	34.19	496	27.16	96.4	7.70	15.50	1474.
600	3.85	34.27	595	27.24	89.1	8.62	20.66	1475.
800	3.48	34.39	793	27.38	77.3	10.27	32.44	1477.
1000	3.17	34.47	990	27.47	69.4	11.73	45.72	1479.
1200	2.91	34.53	1188	27.54	63.3	13.05	60.50	1481.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 59
49-8.0 N 132-40.0 W
MO.-6 DAY-25 GMT-0.0
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 59 DATE 25/ 6/75
POSITION 49- 8.0N, 132-40.0W GMT 0.0
RESULTS OF STP CAST 410 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.09	32.42	0	24.95	301.6	0.0	0.0	1487.
10	10.14	32.43	10	24.95	302.0	0.30	0.02	1488.
20	10.09	32.43	20	24.96	301.5	0.60	0.06	1488.
30	9.82	32.44	30	25.01	296.7	0.90	0.14	1487.
50	7.83	32.44	50	25.31	267.7	1.47	0.37	1480.
75	6.80	32.54	75	25.53	247.1	2.10	0.77	1476.
100	6.46	32.86	99	25.83	219.2	2.69	1.29	1476.
125	6.21	33.38	124	26.27	177.6	3.19	1.87	1476.
150	6.06	33.70	149	26.54	152.3	3.60	2.43	1476.
175	5.60	33.83	174	26.70	137.3	3.96	3.03	1475.
200	5.43	33.87	199	26.75	132.5	4.30	3.67	1475.
225	5.21	33.88	223	26.79	129.5	4.62	4.38	1474.
250	4.98	33.90	248	26.83	125.6	4.94	5.15	1474.
300	4.72	33.95	298	26.90	119.7	5.56	6.88	1473.
400	4.33	34.02	397	27.00	110.9	6.71	10.97	1473.
500	4.07	34.13	496	27.11	100.8	7.76	15.80	1474.
600	3.97	34.19	595	27.17	96.0	8.74	21.30	1475.
800	3.55	34.30	793	27.30	84.8	10.54	34.09	1477.
1000	3.23	34.39	990	27.40	75.9	12.13	48.69	1479.
1200	2.86	34.44	1188	27.48	69.1	13.57	64.80	1481.


TEMPERATURE, C
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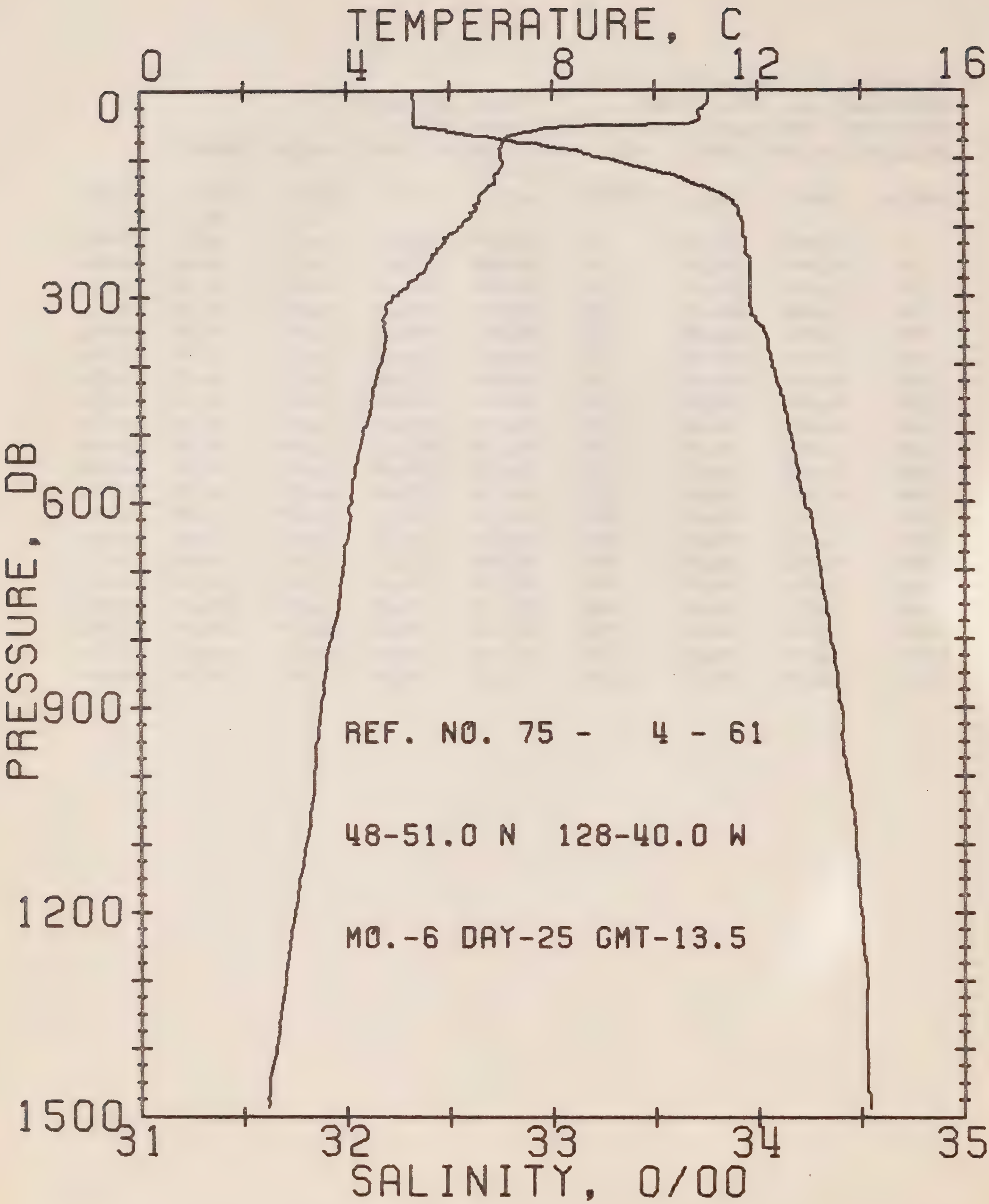
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 60
48-59.0 N 130-40.0 W
MO.-6 DAY-25 GMT-10.5
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 60 DATE 25/ 6/75
POSITION 48-59.0N. 130-40.0W GMT 10.5
RESULTS OF STP CAST 388 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.95	32.21	0	24.64	331.1	0.0	0.0	1490.
10	10.95	32.22	10	24.65	330.8	0.33	0.02	1490.
20	10.17	32.24	20	24.80	316.8	0.66	0.07	1488.
30	8.88	32.32	30	25.07	291.2	0.96	0.14	1483.
50	7.59	32.52	50	25.41	258.5	1.51	0.36	1479.
75	7.15	32.58	75	25.52	248.6	2.14	0.77	1478.
100	6.65	32.62	99	25.62	239.5	2.75	1.31	1476.
125	6.52	32.92	124	25.87	215.8	3.32	1.97	1476.
150	6.52	33.54	149	26.36	169.9	3.80	2.64	1478.
175	6.53	33.78	174	26.55	152.1	4.20	3.30	1478.
200	6.29	33.85	199	26.63	144.5	4.57	4.01	1478.
225	5.77	33.87	223	26.71	136.9	4.93	4.78	1476.
250	5.50	33.88	248	26.75	133.2	5.27	5.59	1476.
300	4.98	33.91	298	26.84	125.3	5.91	7.41	1474.
400	4.52	34.01	397	26.97	113.8	7.11	11.65	1474.
500	4.03	34.08	496	27.08	104.0	8.20	16.65	1474.
600	3.73	34.16	595	27.17	95.3	9.19	22.19	1474.
800	3.40	34.30	793	27.31	83.1	10.97	34.88	1476.
1000	3.18	34.40	990	27.41	74.8	12.54	49.27	1479.
1200	2.68	34.47	1188	27.52	65.2	13.95	65.05	1480.


TEMPERATURE, C
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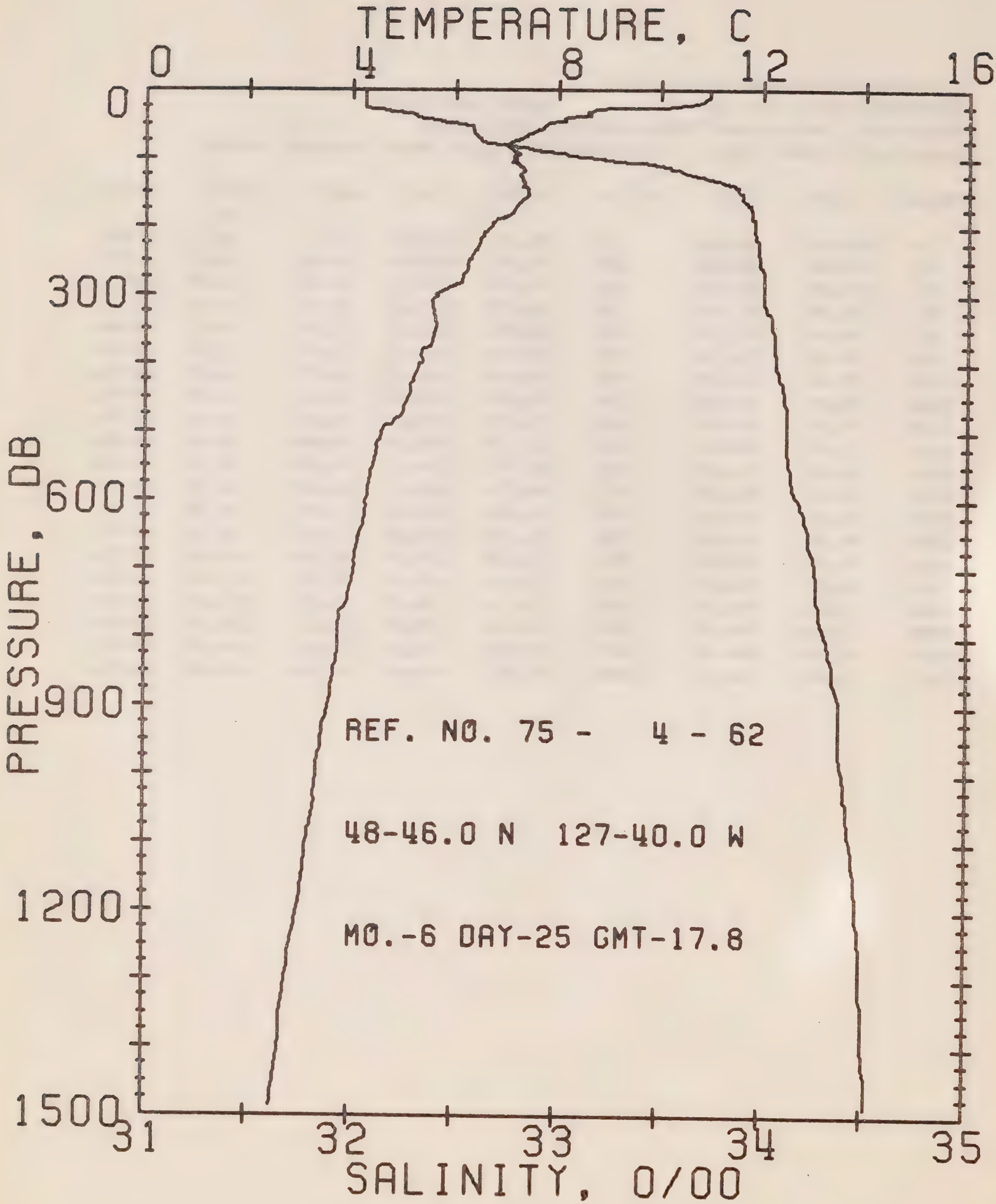
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 61
48-51.0 N 128-40.0 W
MO.-6 DAY-25 GMT-13.5
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 61 DATE 25/ 6/75
POSITION 48-51.0N, 128-40.0W GMT 13.5
RESULTS OF STP CAST 389 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.04	32.32	0	24.71	324.5	0.0	0.0	1491.
10	11.04	32.32	10	24.71	324.9	0.32	0.02	1491.
20	11.00	32.33	20	24.72	323.8	0.65	0.07	1491.
30	10.85	32.33	30	24.75	321.5	0.97	0.15	1491.
50	9.46	32.33	50	24.98	299.5	1.61	0.41	1486.
75	7.03	32.84	75	25.74	227.6	2.25	0.81	1478.
100	7.02	33.29	99	26.09	194.2	2.77	1.28	1479.
125	6.87	33.62	124	26.37	168.1	3.23	1.80	1479.
150	6.62	33.83	149	26.57	149.6	3.63	2.36	1478.
175	6.50	33.91	174	26.65	142.4	3.99	2.96	1478.
200	6.18	33.93	199	26.71	137.2	4.34	3.63	1478.
225	5.86	33.94	223	26.76	132.7	4.68	4.36	1477.
250	5.61	33.96	248	26.80	128.6	5.00	5.15	1476.
300	4.90	33.96	298	26.89	120.8	5.63	6.90	1474.
400	4.65	34.07	397	27.00	110.7	6.79	11.01	1475.
500	4.32	34.15	496	27.10	101.9	7.85	15.87	1475.
600	4.11	34.22	595	27.18	95.3	8.83	21.37	1476.
800	3.68	34.35	793	27.33	82.5	10.59	33.92	1478.
1000	3.37	34.43	990	27.42	74.4	12.15	48.20	1480.
1200	2.98	34.50	1188	27.51	66.6	13.56	63.97	1482.


TEMPERATURE, C
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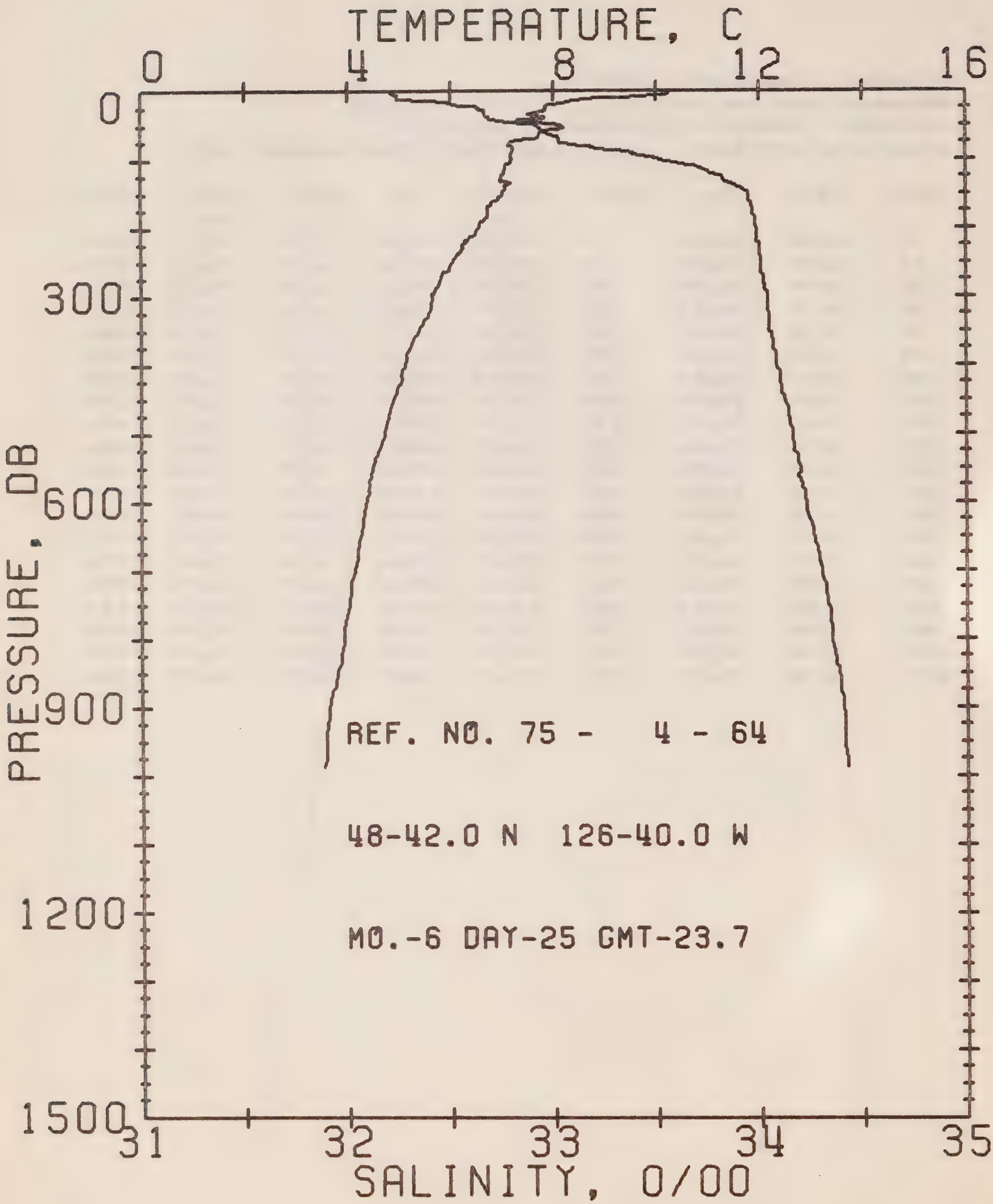
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 62
48-46.0 N 127-40.0 W
MO.-6 DAY-25 GMT-17.8
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 62 DATE 25/ 6/75
POSITION 48-46.0N. 127-40.0W GMT 17.8
RESULTS OF STP CAST 412 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.95	32.06	0	24.52	342.2	0.0	0.0	1490.
10	10.95	32.06	10	24.52	342.6	0.34	0.02	1490.
20	10.76	32.06	20	24.56	339.7	0.68	0.07	1490.
30	8.70	32.16	30	24.97	300.5	1.01	0.15	1482.
50	7.78	32.52	50	25.38	261.1	1.57	0.38	1480.
75	7.13	32.63	75	25.56	244.6	2.20	0.78	1478.
100	7.13	33.18	99	25.99	203.9	2.77	1.28	1479.
125	7.25	33.69	124	26.38	167.9	3.22	1.81	1480.
150	7.42	33.89	149	26.51	155.7	3.62	2.37	1482.
175	7.14	33.94	174	26.59	148.3	4.01	3.00	1481.
200	6.70	33.96	199	26.66	141.7	4.37	3.69	1480.
225	6.46	33.98	223	26.71	137.4	4.72	4.44	1479.
250	6.27	33.99	248	26.74	134.6	5.06	5.27	1479.
300	5.66	34.01	298	26.84	126.1	5.71	7.11	1477.
400	5.35	34.07	397	26.92	119.0	6.94	11.48	1478.
500	4.59	34.12	496	27.05	107.3	8.07	16.67	1476.
600	4.28	34.18	595	27.13	100.2	9.12	22.54	1477.
800	3.76	34.31	793	27.29	86.2	10.98	35.77	1478.
1000	3.36	34.40	991	27.40	76.8	12.60	50.57	1480.
1200	2.99	34.47	1188	27.49	68.7	14.05	66.82	1482.


TEMPERATURE, C
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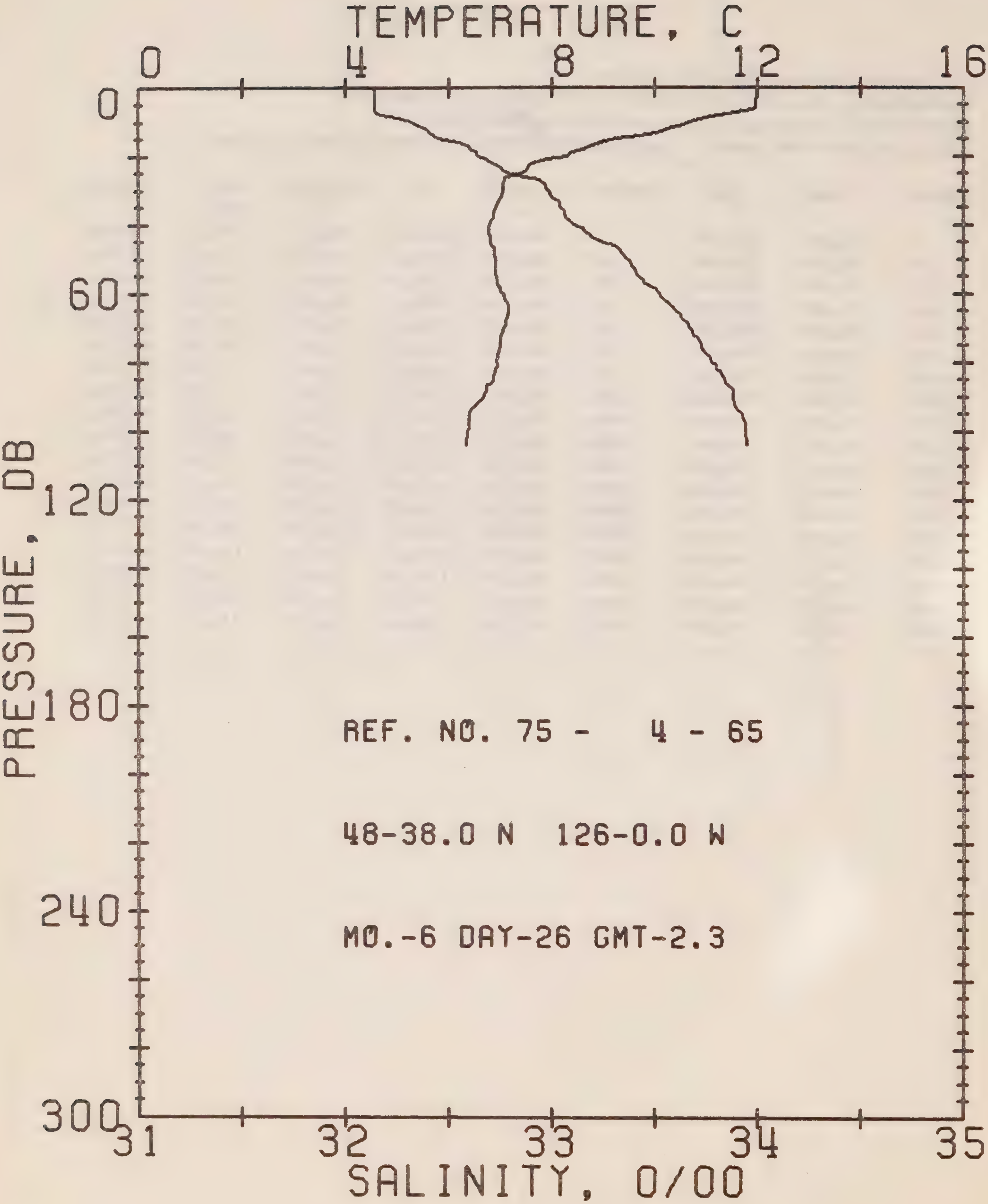
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 4 - 64
48-42.0 N 126-40.0 W
MO.-6 DAY-25 GMT-23.7
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 64 DATE 25/ 6/75
POSITION 48-42.0N, 126-40.0W GMT 23.7
RESULTS OF STP CAST 340 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.26	32.20	0	24.75	320.6	0.0	0.0	1488.
10	9.27	32.24	10	24.94	302.6	0.32	0.02	1484.
20	8.00	32.51	20	25.35	264.4	0.60	0.06	1480.
30	7.81	32.66	30	25.49	250.7	0.85	0.12	1480.
50	8.09	32.91	50	25.65	236.4	1.34	0.32	1481.
75	7.15	33.03	75	25.87	215.0	1.91	0.68	1478.
100	7.19	33.52	99	26.25	179.4	2.40	1.12	1479.
125	6.98	33.82	124	26.52	154.7	2.81	1.59	1479.
150	7.01	33.95	149	26.61	145.7	3.19	2.12	1480.
175	6.72	33.97	174	26.67	140.8	3.55	2.71	1479.
200	6.53	33.98	199	26.71	137.6	3.89	3.38	1479.
225	6.23	34.00	223	26.76	132.9	4.23	4.11	1478.
250	6.03	34.01	248	26.79	130.0	4.56	4.91	1478.
300	5.66	34.04	298	26.86	123.7	5.20	6.69	1477.
400	5.12	34.08	397	26.96	115.5	6.39	10.95	1477.
500	4.73	34.16	496	27.07	105.9	7.50	16.00	1477.
600	4.35	34.23	595	27.16	97.7	8.51	21.69	1477.
800	3.91	34.35	793	27.30	85.1	10.33	34.59	1479.


TEMPERATURE, C
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4
8
12
16
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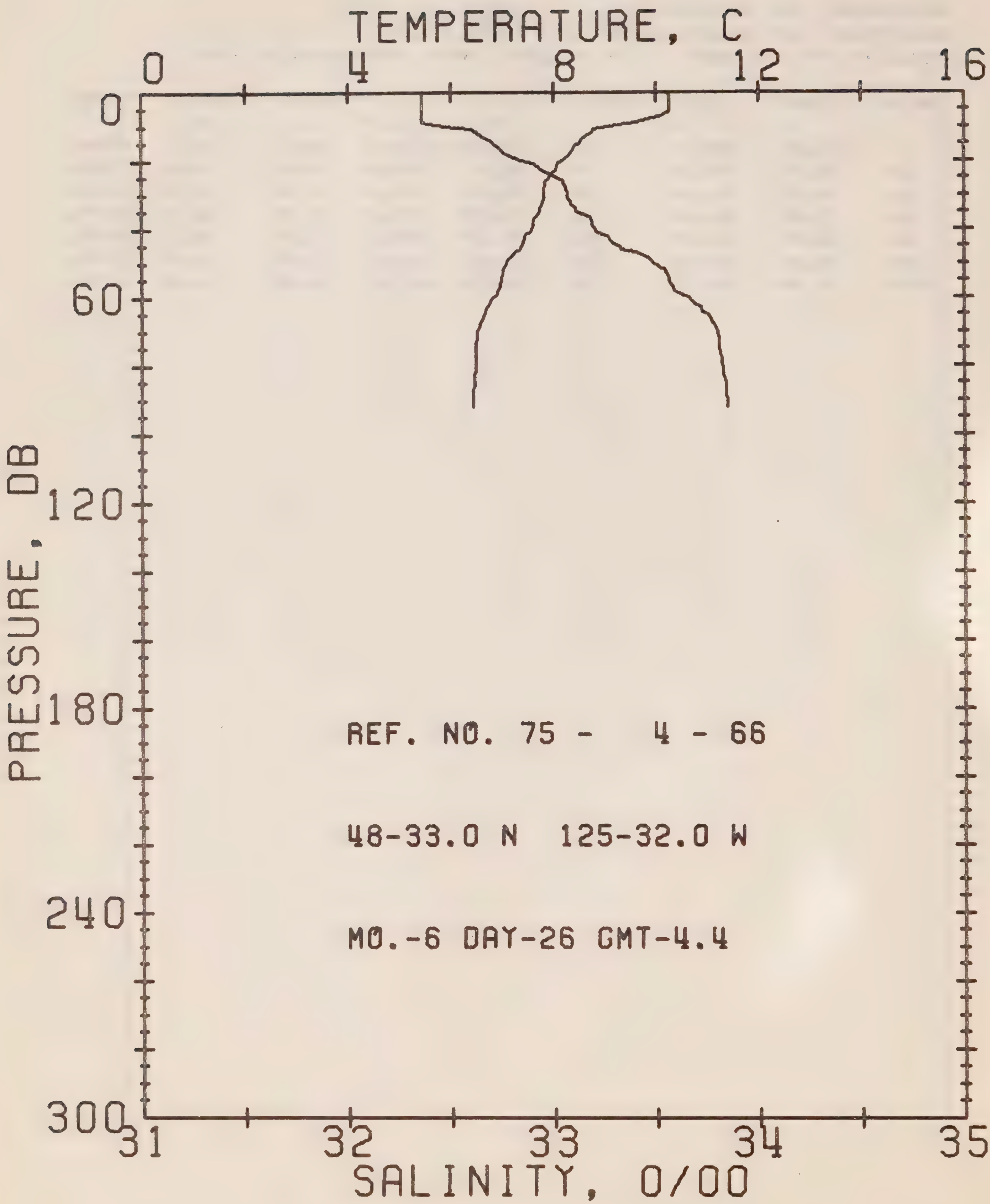
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 65
48-38.0 N 126-0.0 W
MO.-6 DAY-26 GMT-2.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 65 DATE 26/ 6/75
POSITION 48-38.0N, 126- 0.0W GMT 2.3
RESULTS OF STP CAST 94 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.98	32.14	0	24.40	354.0	0.0	0.0	1494.
10	10.67	32.32	10	24.77	318.8	0.35	0.02	1490.
20	8.31	32.64	20	25.40	259.0	0.64	0.06	1481.
30	7.06	32.98	30	25.85	216.9	0.87	0.12	1477.
50	6.90	33.37	50	26.17	186.0	1.27	0.28	1477.
75	7.00	33.73	75	26.44	160.9	1.71	0.56	1479.
100	6.38	33.94	99	26.69	137.6	2.08	0.89	1477.


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 4 - 66
48-33.0 N 125-32.0 W
MO.-6 DAY-26 GMT-4.4
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 4- 66 DATE 26/ 6/75
POSITION 48-33.0N, 125-32.0W GMT 4.4
RESULTS OF STP CAST 79 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.25	32.36	0	24.88	308.6	0.0	0.0	1488.
10	9.07	32.47	10	25.15	282.6	0.31	0.02	1484.
20	8.18	32.84	20	25.58	242.3	0.56	0.05	1481.
30	7.81	33.07	30	25.81	220.2	0.79	0.11	1480.
50	7.07	33.49	50	26.24	179.3	1.20	0.28	1478.
75	6.48	33.81	75	26.58	148.2	1.60	0.53	1477.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	10.25	32.36	44.	7.42	33.29
1.	10.26	32.36	45.	7.37	33.32
2.	10.26	32.36	46.	7.34	33.33
3.	10.26	32.36	47.	7.24	33.40
4.	10.27	32.36	48.	7.16	33.45
5.	10.26	32.36	49.	7.12	33.47
6.	10.25	32.36	50.	7.07	33.49
7.	10.13	32.36	51.	7.05	33.51
9.	9.62	32.36	52.	7.00	33.54
10.	9.07	32.47	53.	7.00	33.55
11.	8.77	32.60	54.	6.99	33.56
12.	8.75	32.63	55.	6.98	33.56
13.	8.63	32.65	56.	6.97	33.57
14.	8.53	32.69	57.	6.95	33.58
15.	8.50	32.70	58.	6.91	33.59
16.	8.41	32.73	59.	6.90	33.61
17.	8.38	32.74	60.	6.82	33.66
18.	8.31	32.76	61.	6.78	33.67
20.	8.18	32.84	62.	6.75	33.69
21.	8.07	32.90	63.	6.70	33.72
22.	8.04	32.93	64.	6.67	33.72
23.	8.02	32.94	65.	6.63	33.75
24.	7.96	32.99	66.	6.61	33.76
25.	7.90	33.03	67.	6.59	33.77
26.	7.85	33.05	68.	6.56	33.78
27.	7.84	33.05	70.	6.52	33.80
28.	7.82	33.06	71.	6.51	33.80
30.	7.81	33.07	72.	6.50	33.81
31.	7.81	33.07	73.	6.49	33.81
32.	7.79	33.08	75.	6.48	33.81
33.	7.77	33.09	78.	6.47	33.82
34.	7.74	33.11	80.	6.47	33.82
35.	7.73	33.11	81.	6.47	33.83
36.	7.68	33.16	83.	6.46	33.83
37.	7.63	33.18	85.	6.45	33.84
38.	7.61	33.19	87.	6.44	33.84
39.	7.61	33.19	88.	6.44	33.84
40.	7.58	33.20	91.	6.42	33.85
41.	7.55	33.21	92.	6.42	33.85
42.	7.45	33.26			

BATHYTHERMOGRAPH OBSERVATIONS

(P-75-4)

BATHYTHERMOGRAPH OBSERVATIONS

This section includes all B.T.'s taken on Line P outbound and inbound, and one a day on Station P.

Although B.T.'s at Station P were taken every three hours, only the one taken at 1800 GMT has been shown.

Weather conditions on Line P sometimes force the cancellation of a B.T., in that case an X.B.T. was taken. These X.B.T.'s are shown following the B.T.'s.

EXPLANATION OF HEADINGS

Example: 0030 / 13-04-74

48°34' N.

125°30' W.

0030 = Time in GMT

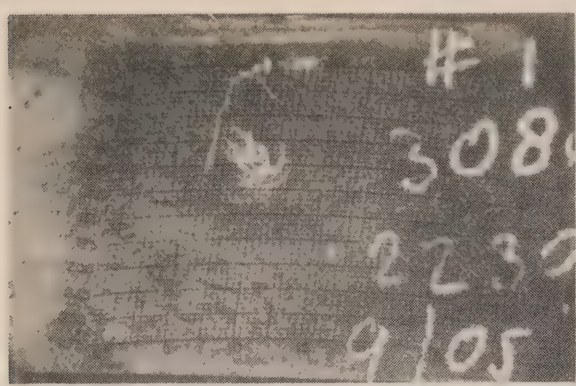
13 = Day

04 = Month

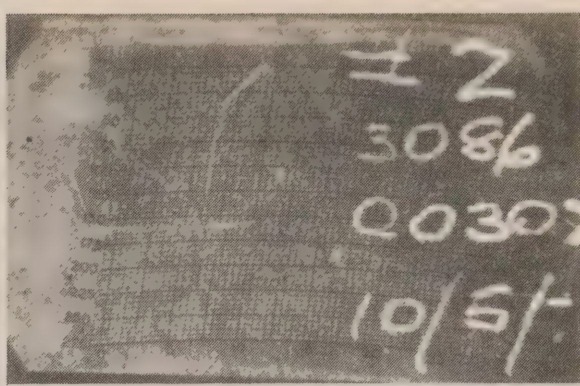
74 = Year

48°34' N. = Latitude

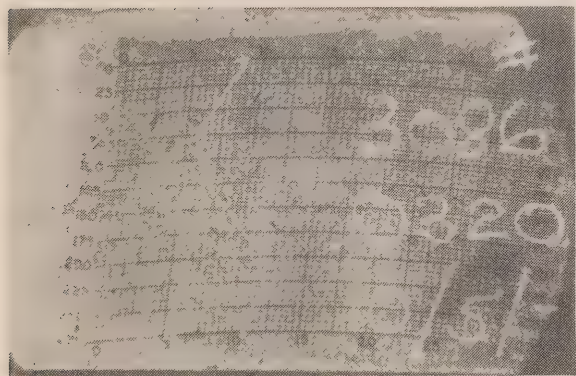
125°30' W. = Longitude



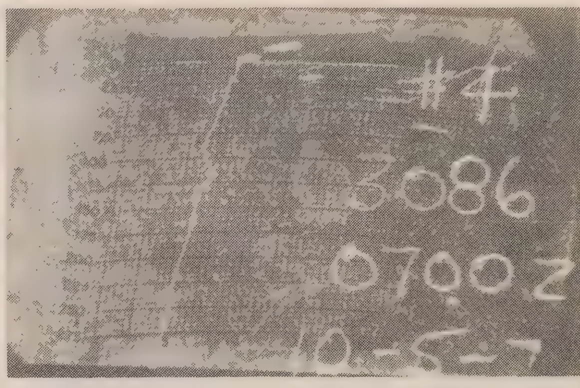
2230 / 09-05-75
48° 33' N.
125° 32' W.



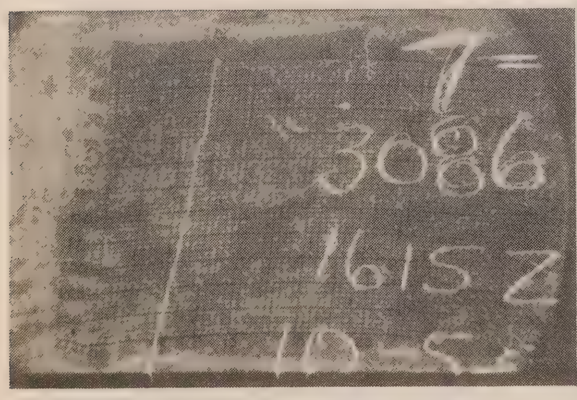
0030 / 10-05-75
48° 38' N.
126° 00' W.



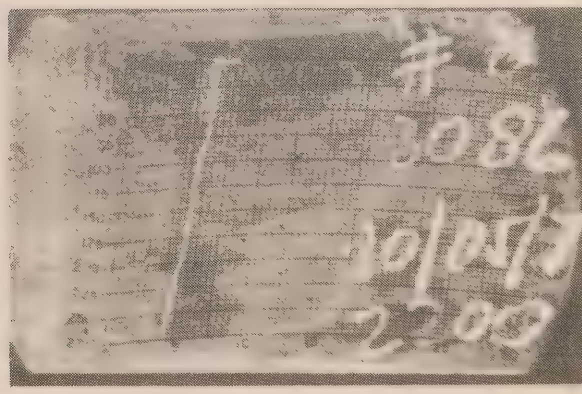
0320 / 10-05-75
48° 42' N.
126° 40' W.



0700 / 10-05-75
48° 47' N.
127° 42' W.

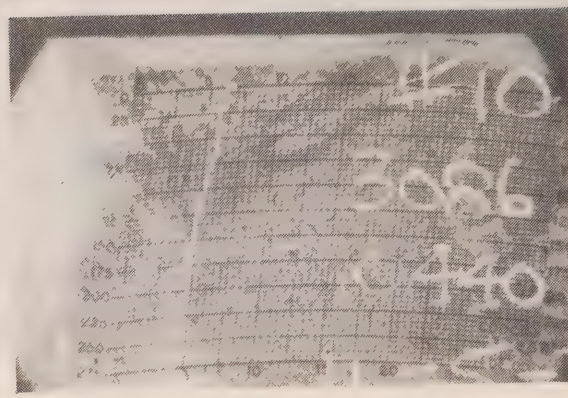


1615 / 10-05-75
49° 00' N.
130° 40' W.

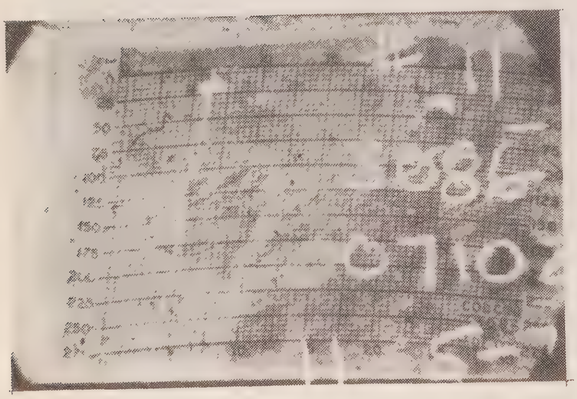


2200 / 10-05-75
49° 04' N.
131° 40' W.

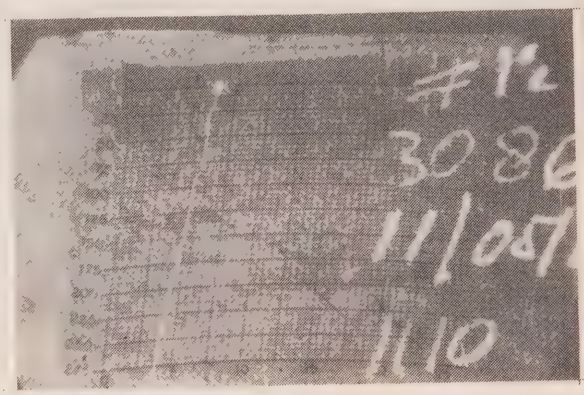
0045 / 11-05-75
49° 10' N.
132° 40' W.



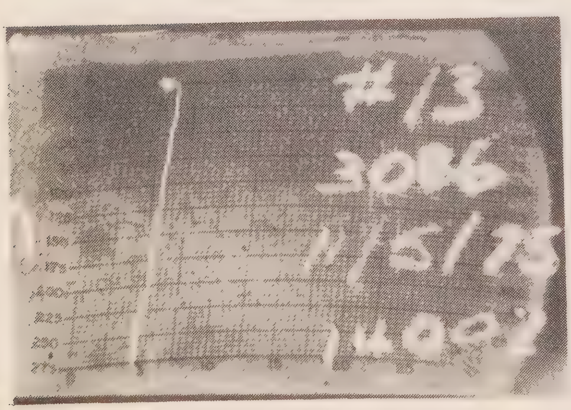
0440 / 11-05-75
49° 14' N.
133° 40' W.



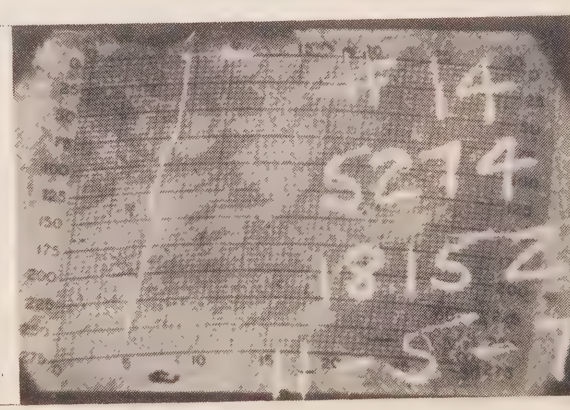
0710 / 11-05-75
49° 17' N.
134° 40' W.



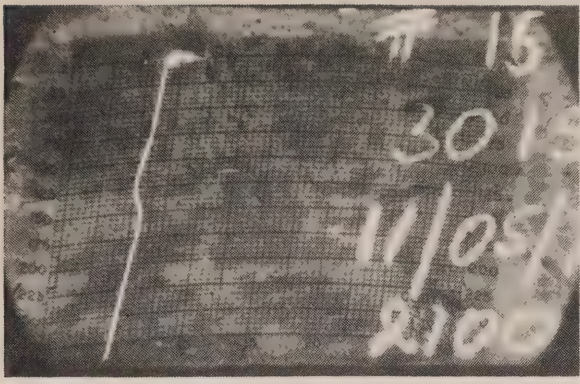
1110 / 11-05-75
49° 22' N.
135° 40' W.



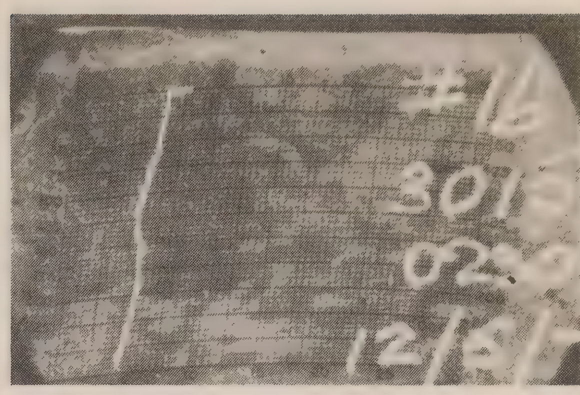
1400 / 11-05-75
49° 26' N.
136° 40' W.



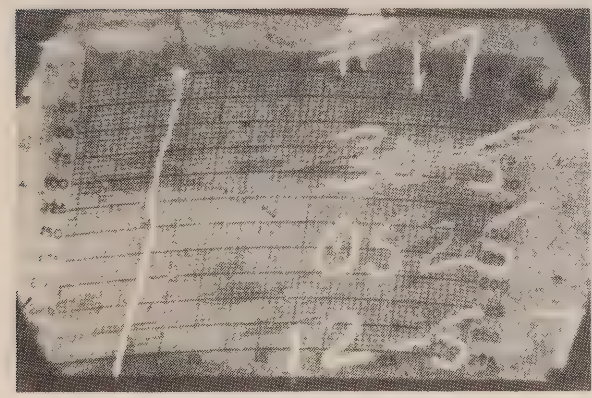
1815 / 11-05-75
49° 30' N.
137° 40' W.



2100 / 11-05-75
49° 34' N.
138° 40' W.



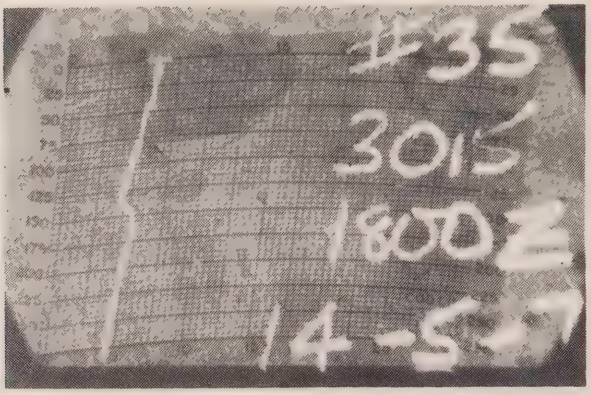
0230 / 12-05-75
49° 38' N.
139° 40' W.



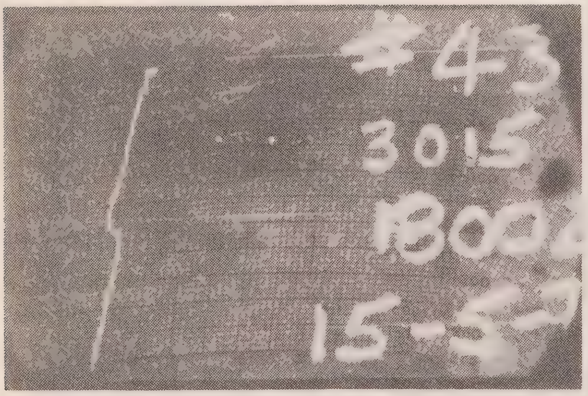
0525 / 12-05-75
49° 41' N.
140° 40' W.

1330 / 12-05-75
49° 49' N.
142° 40' W.

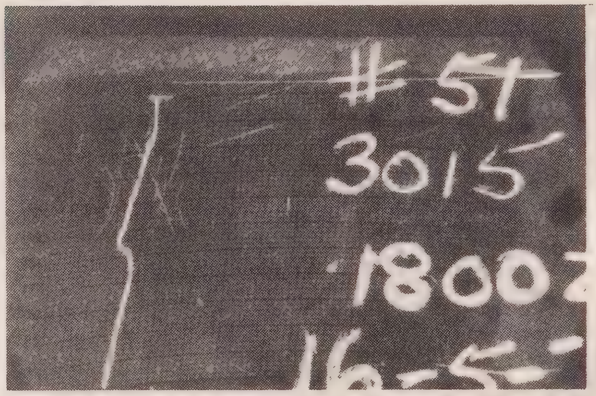
1915 / 12-05-75
49° 53' N.
143° 40' W.



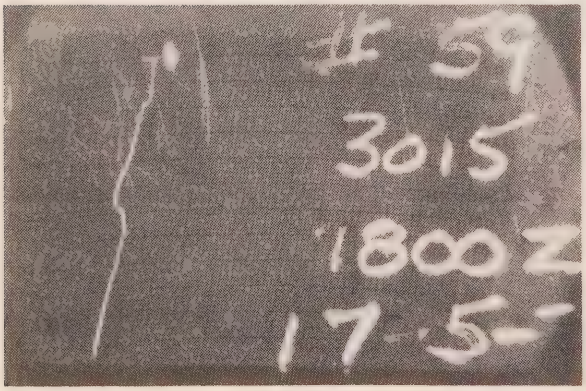
1800 / 14-05-75
50° 02' N.
144° 57' W.



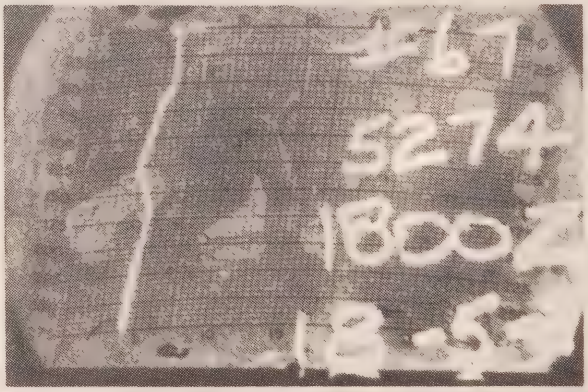
1800 / 15-05-75
50° 03' N.
144° 59' W.



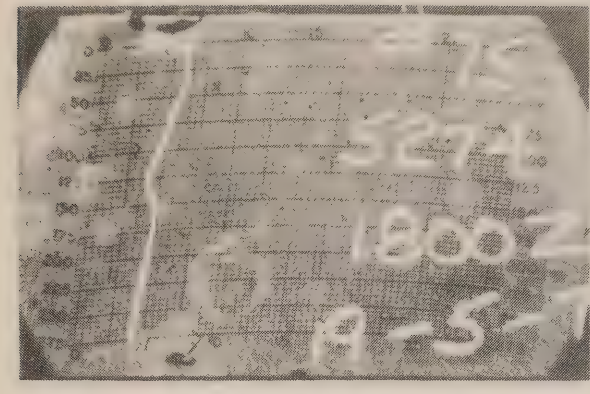
1800 / 16-05-75
50° 03' N.
145° 04' W.



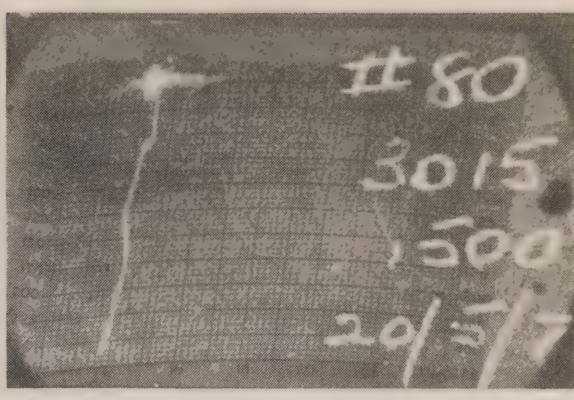
1800 / 17-05-75
50° 02' N.
145° 07' W.



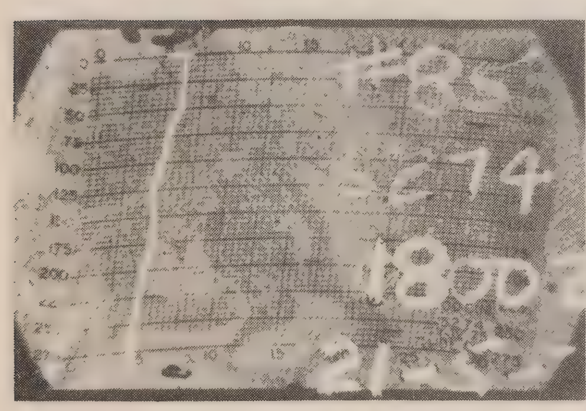
1800 / 18-05-75
49° 59' N.
145° 08' W.



1800 / 19-05-75
50° 04' N.
145° 06' W.



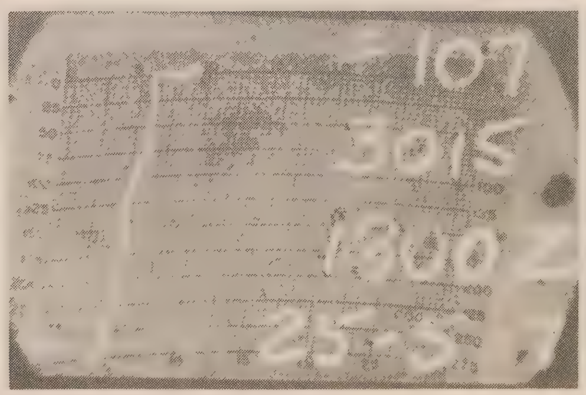
1500 / 20-05-75
50° 00' N.
145° 00' W.



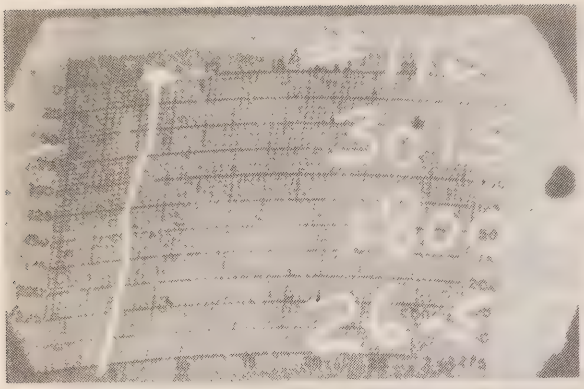
1800 / 21-05-75
50° 00' N.
144° 54' W.

1800 / 22-05-75
50° 02' N.
145° 00' W.

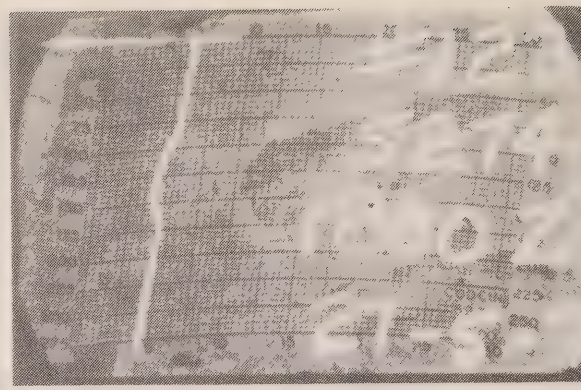
1800 / 23-05-75
50° 02' N.
144° 54' W.



1800 / 25-05-75
49° 54' N.
145° 06' W.



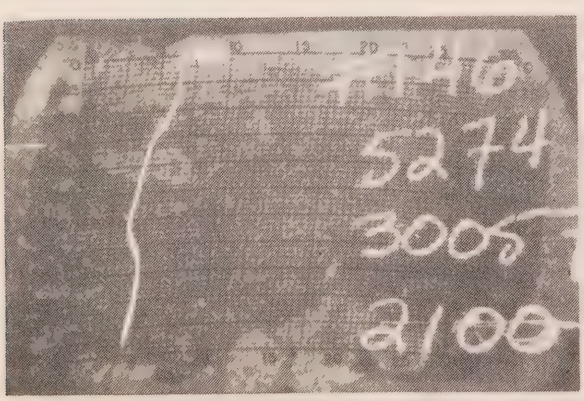
1800 / 26-05-75
50° 01' N.
144° 59' W.



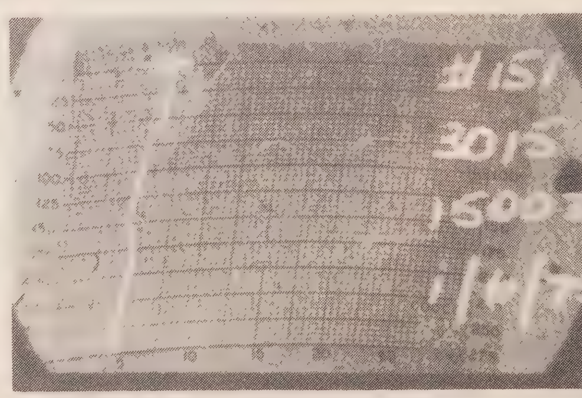
1800 / 27-05-75
50° 07' N.
145° 01' W.

1800 / 28-05-75
50° 06' N.
145° 00' W.

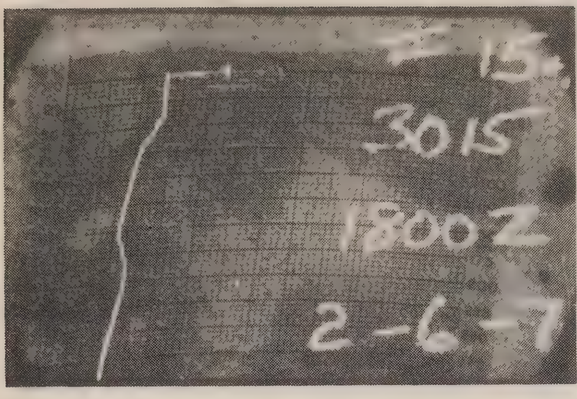
1800 / 29-05-75
50° 04' N.
144° 59' W.



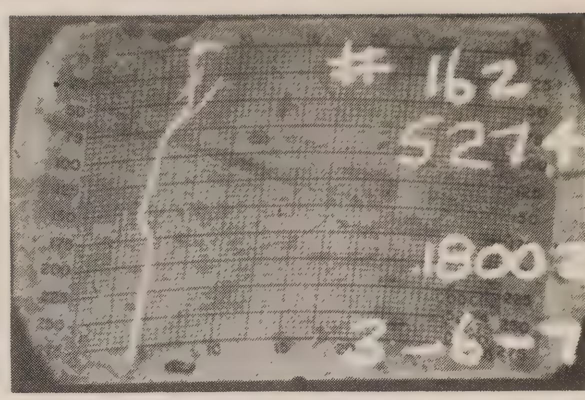
2100 / 30-05-75
49° 59' N.
144° 59' W.



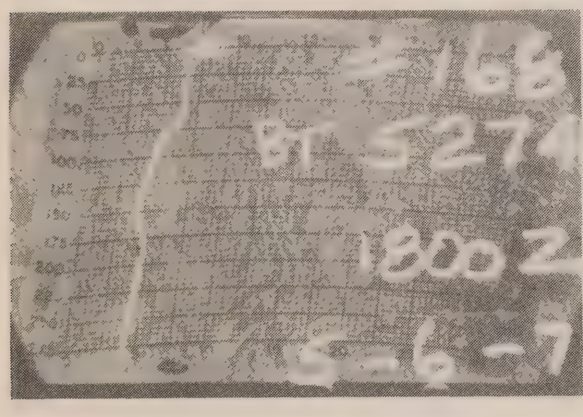
1500 / 01-06-75
50° 04' N.
145° 01' W.



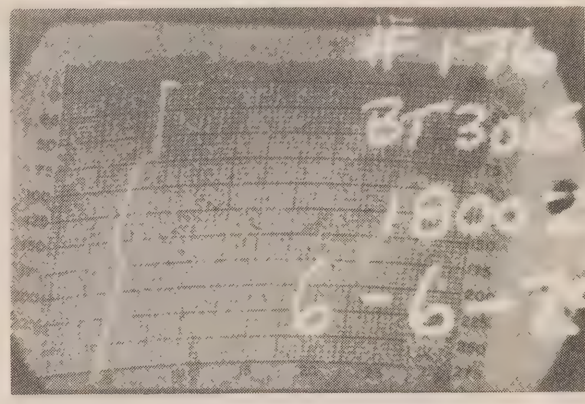
1800 / 02-06-75
50° 00' N.
144° 59' W.



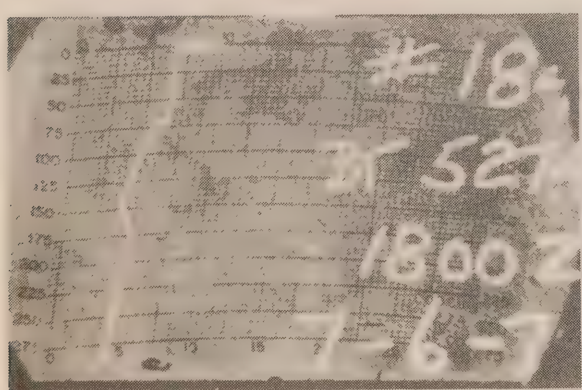
1800 / 03-06-75
50° 04' N.
145° 01' W.



1800 / 05-06-75
50° 00' N.
145° 00' W.

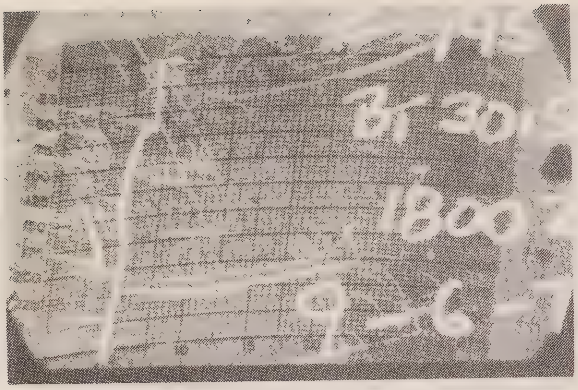


1800 / 06-06-75
50° 00' N.
145° 00' W.

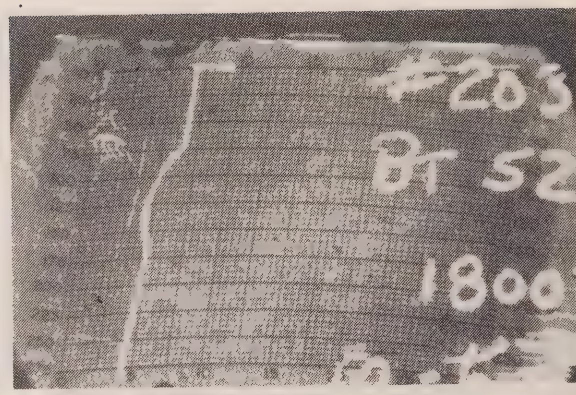


1800 / 07-06-75
49° 59' N.
144° 58' W.

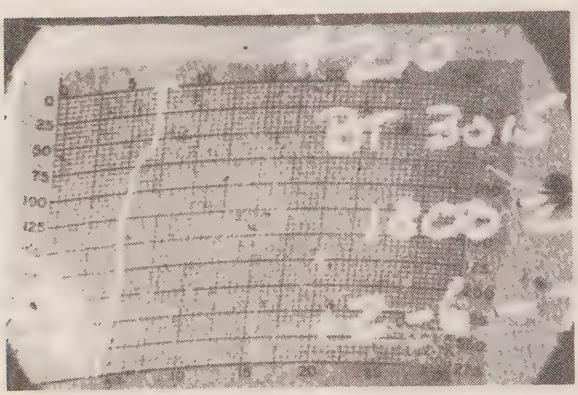
1800 / 08-06-75
49° 57' N.
145° 02' W.



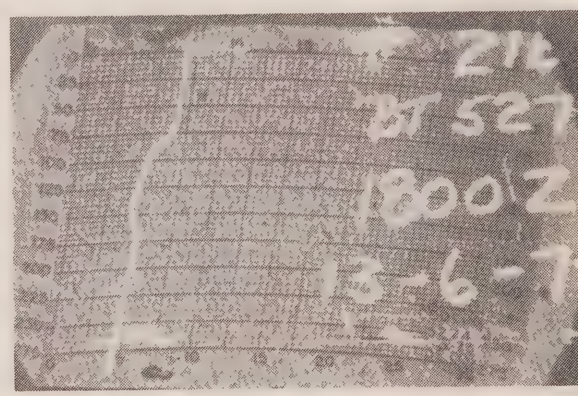
1800 / 09-06-75
50° 00' N.
145° 00' W.



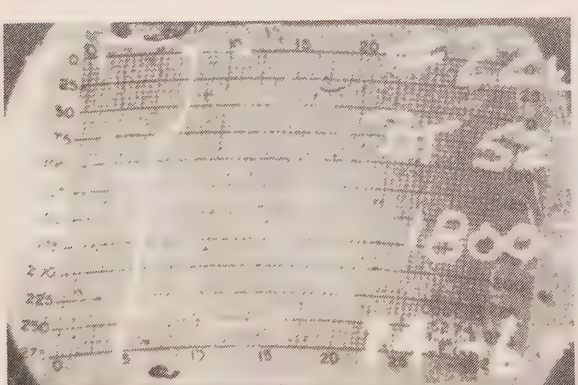
1800 / 10-06-75
50° 01' N.
144° 59' W.



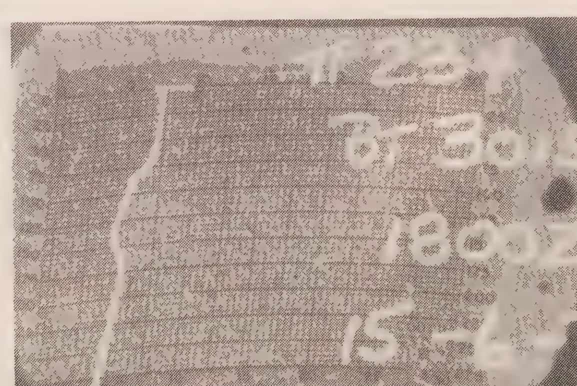
1800 / 12-06-75
49° 58' N.
145° 06' W.



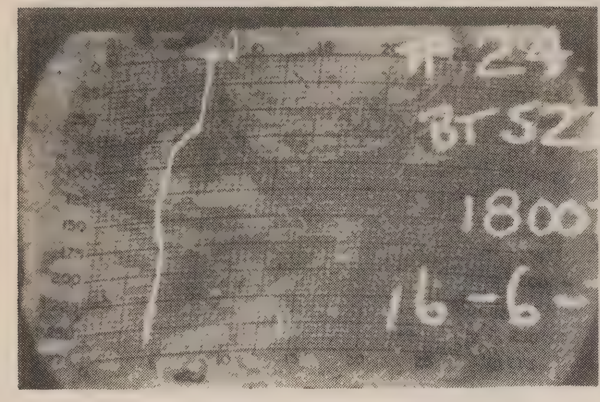
1800 / 13-06-75
50° 01' N.
145° 00' W.



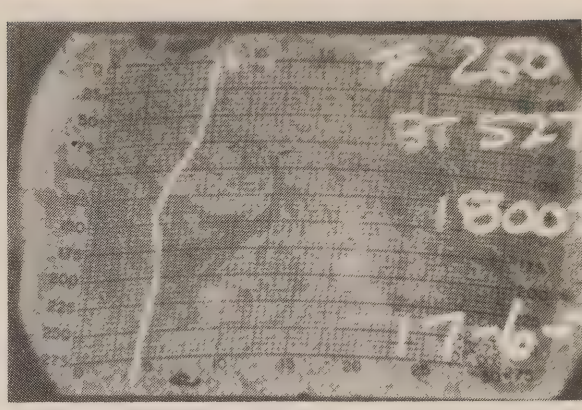
1800 / 14-06-75
50° 01' N.
144" 51' W.



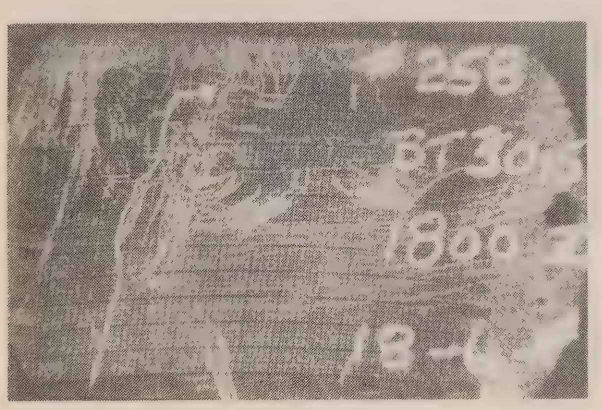
1800 / 15-06-75
49° 58' N.
145° 00' W.



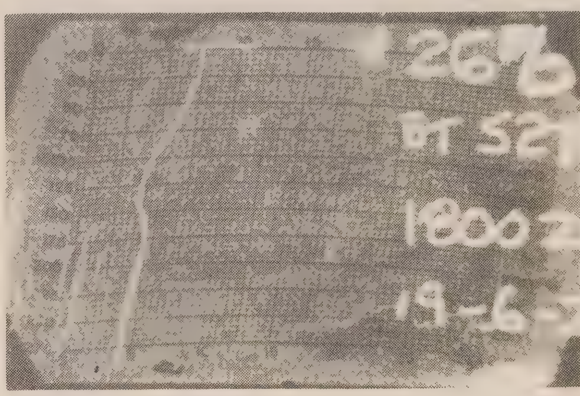
1800 / 16-06-75
49° 59' N.
144° 59' W.



1800 / 17-06-75
49° 58' N.
144° 55' W.

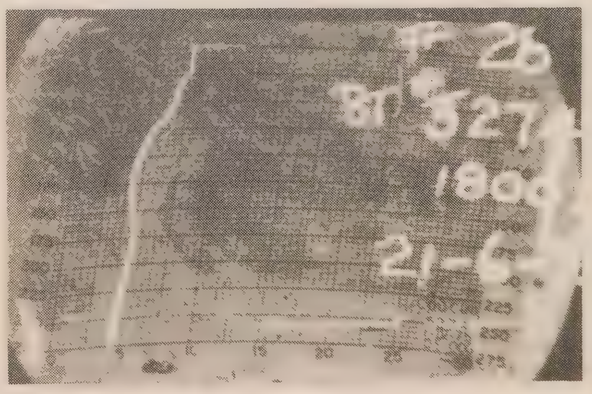


1800 / 18-06-75
49° 59' N.
145° 00' W.

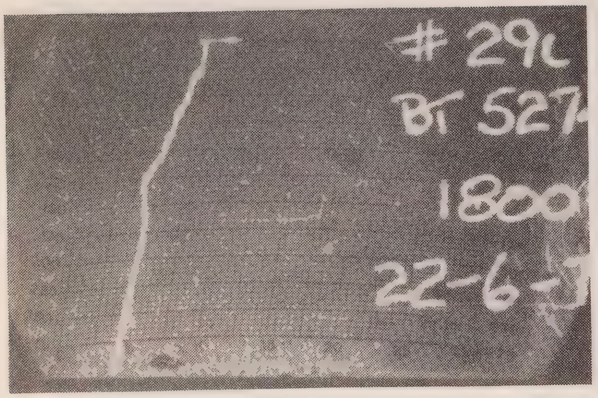


1800 / 19-06-75
50° 00' N.
144° 57' W.

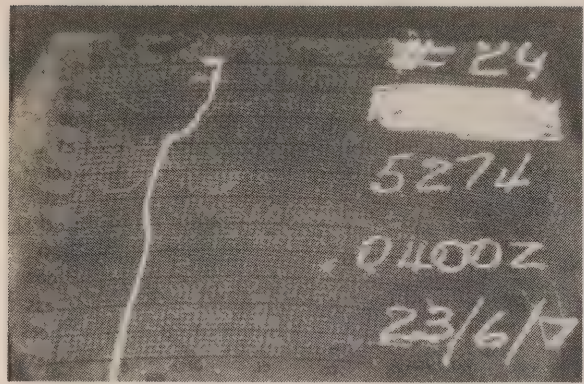
1800 / 20-06-75
50° 01' N.
144° 58' W.



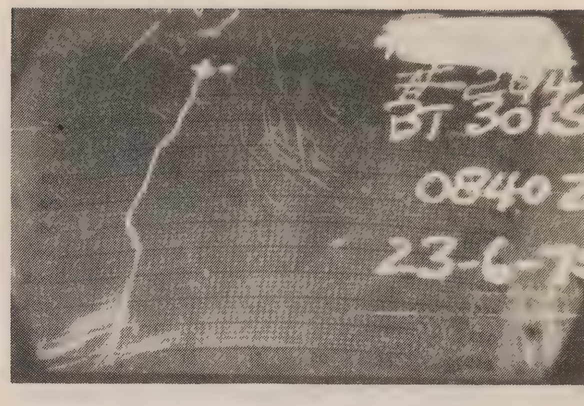
1800 / 21-06-75
50° 02' N.
144° 55' W.



1800 / 22-06-75
49° 59' N.
145° 00' W.

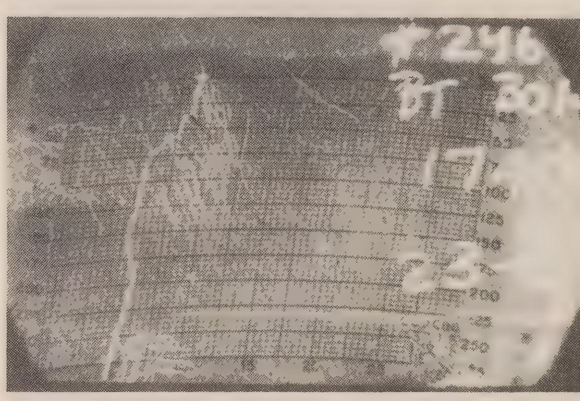


0400 / 23-06-75
49° 53' N.
143° 40' W.

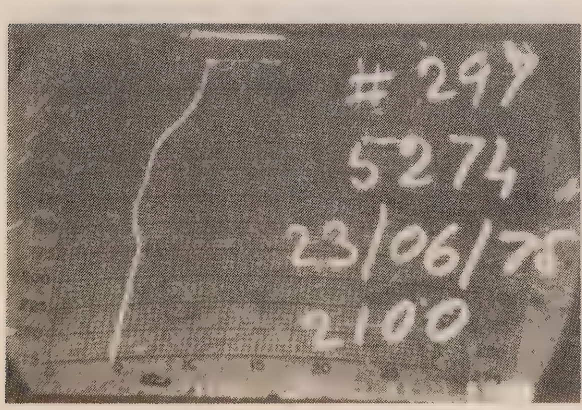


0840 / 23-06-75
49° 49' N.
142° 40' W.

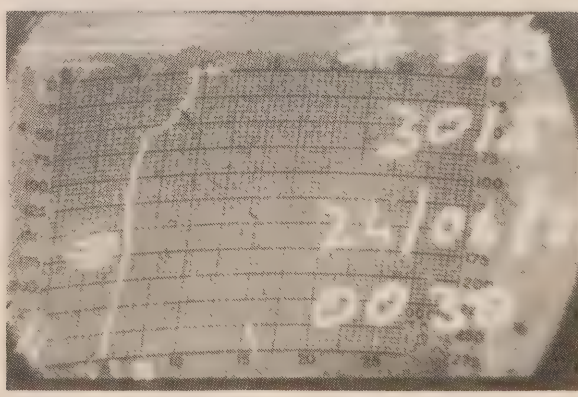
1430 / 23-06-75
49° 45' N.
141° 40' W.



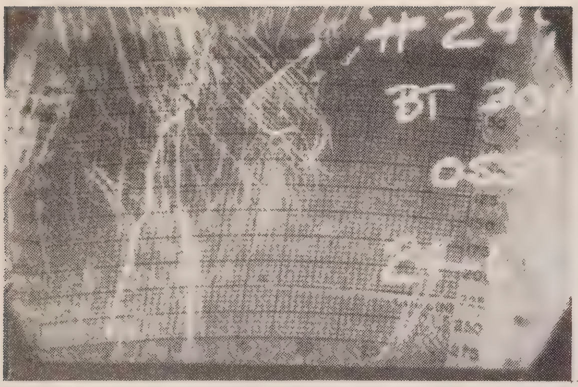
1750 / 23-06-75
49° 42' N.
140° 40' W.



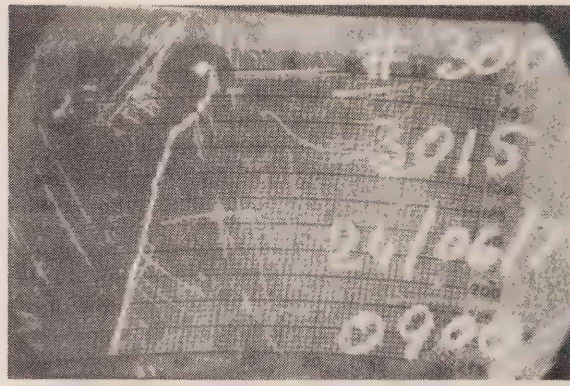
2100 / 23-06-75
49° 44' N.
139° 42' W.



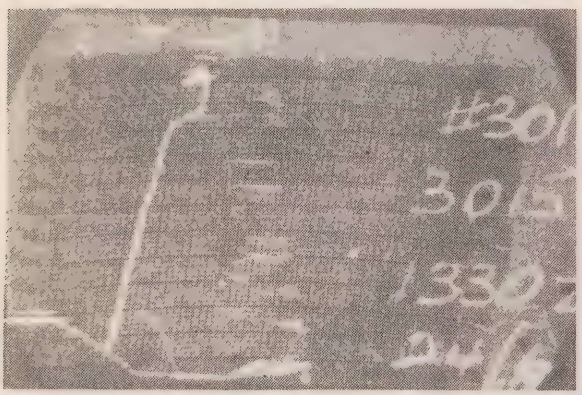
0030 / 24-06-75
49° 34' N.
138° 40' W.



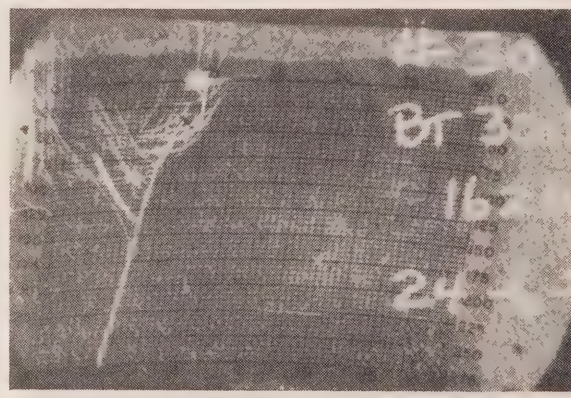
0550 / 24-06-75
49° 30' N.
137° 40' W.



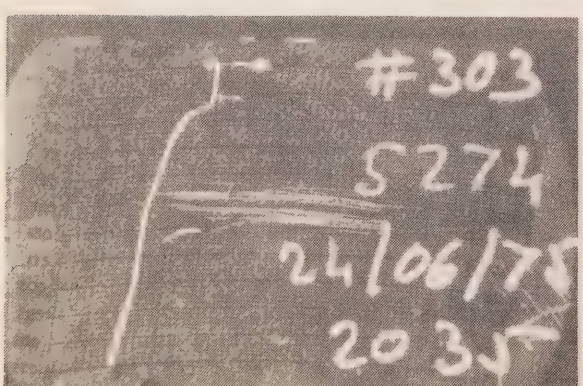
0900 / 24-06-75
49° 26' N.
136° 40' W.



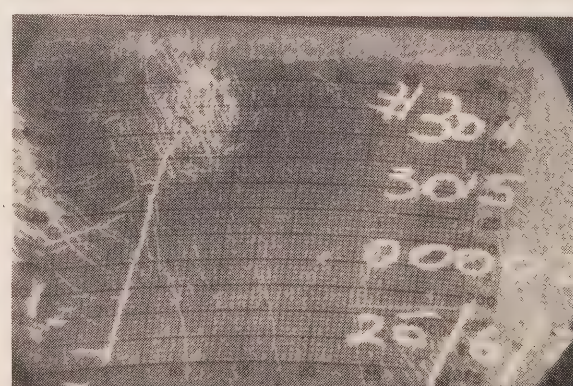
1330 / 24-06-75
49° 22' N.
135° 40' W.



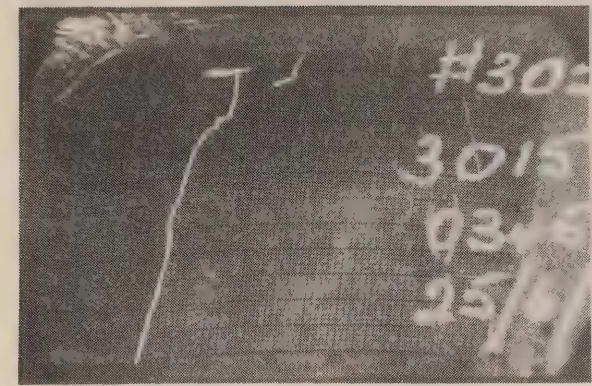
1620 / 24-06-75
49° 17' N.
134° 40' W.



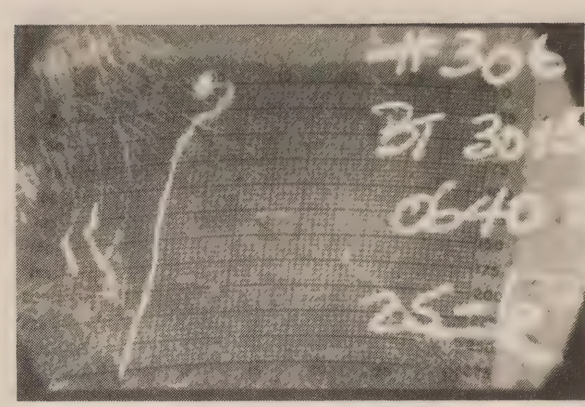
2035 / 24-06-75
49° 13' N.
133° 40' W.



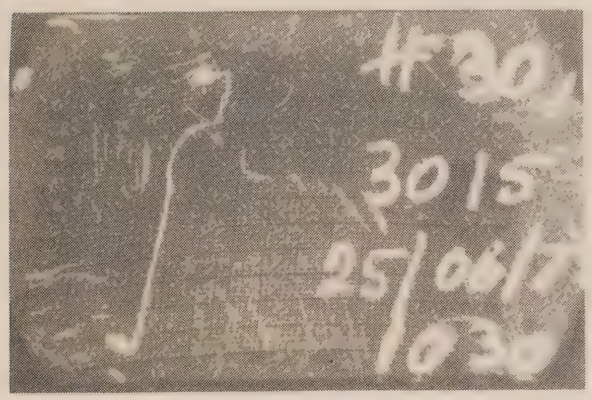
0001 / 25-06-75
49° 10' N.
132° 40' W.



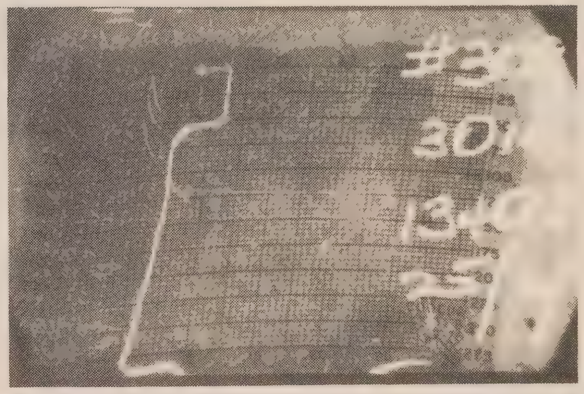
0345 / 25-06-75
49° 04' N.
131° 40' W.



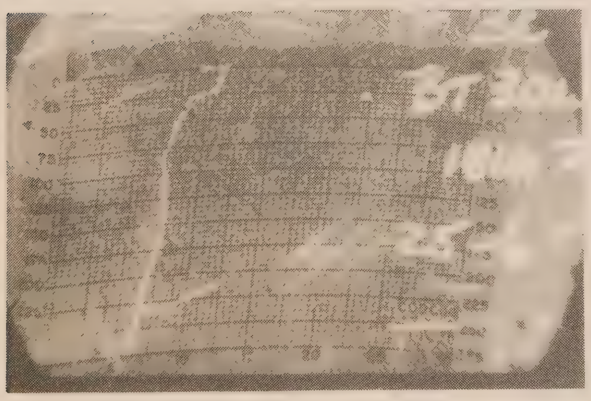
0640 / 25-06-75
49° 02' N.
130° 40' W.



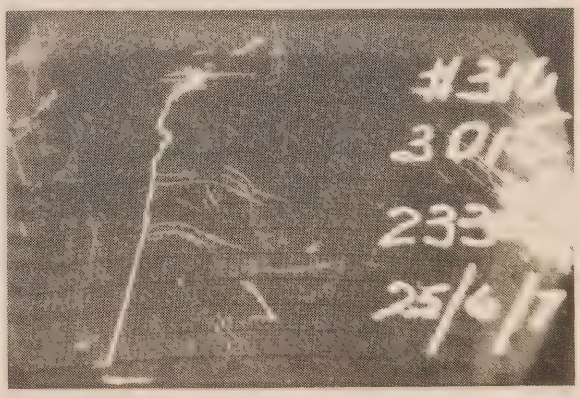
1030 / 25-06-75
48° 55' N.
129° 40' W.



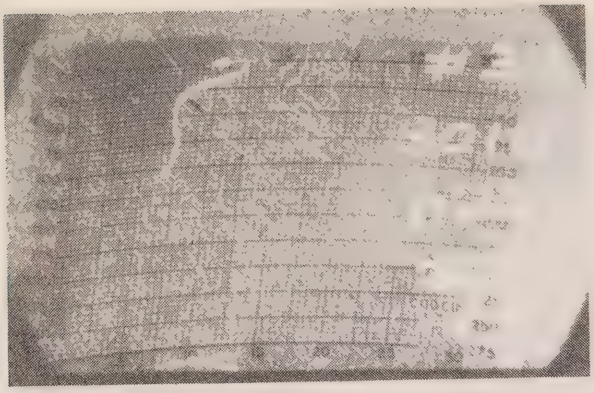
1340 / 25-06-75
48° 51' N.
128° 40' W.



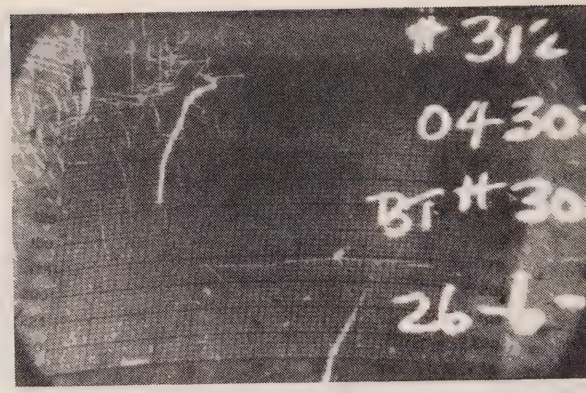
1800 / 25-06-75
48° 46' N.
127° 40' W.



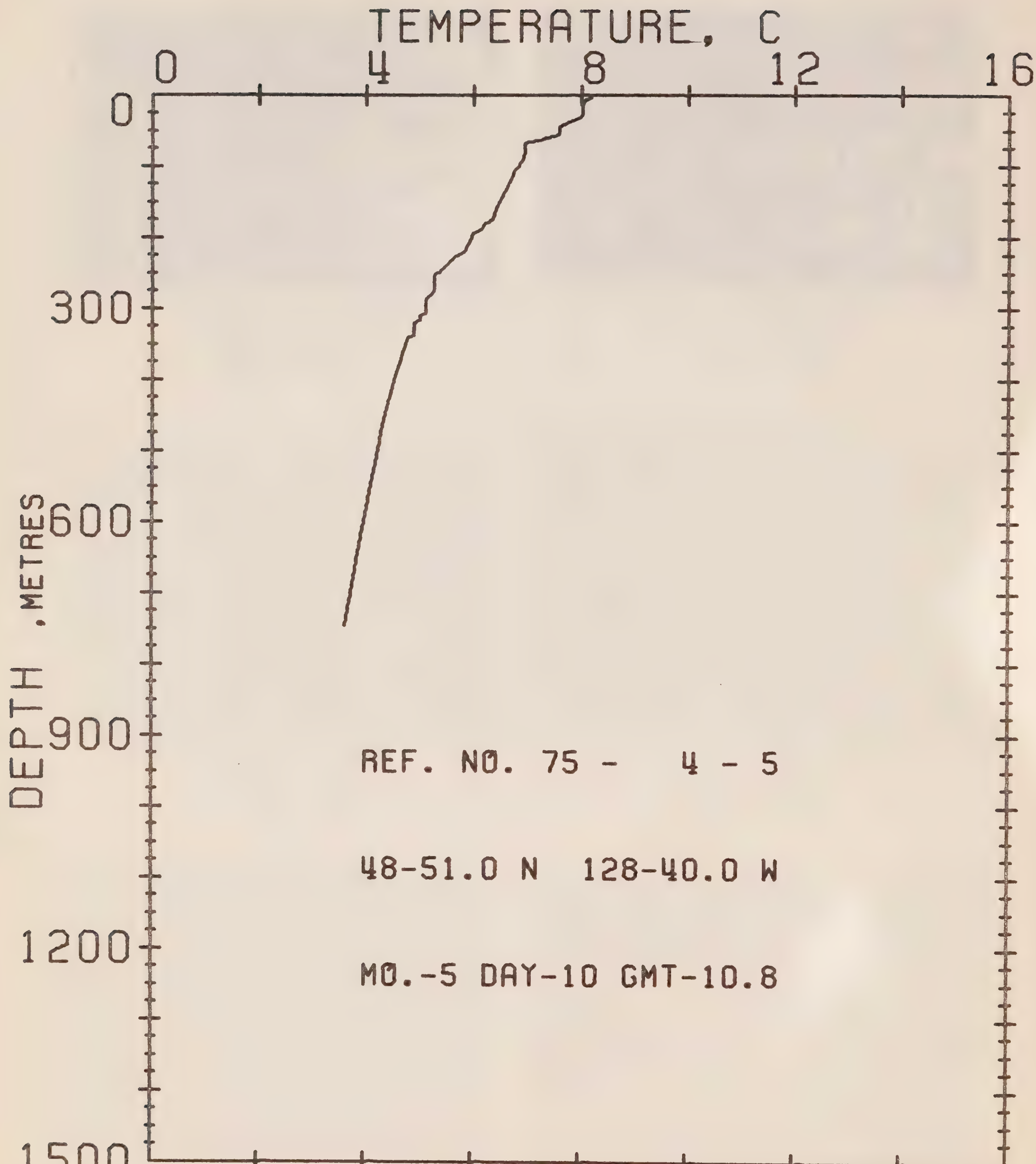
2331 / 25-06-75
48° 42' N.
126° 40' W.



0230 / 26-06-75
48° 38' N.
126° 00' W.

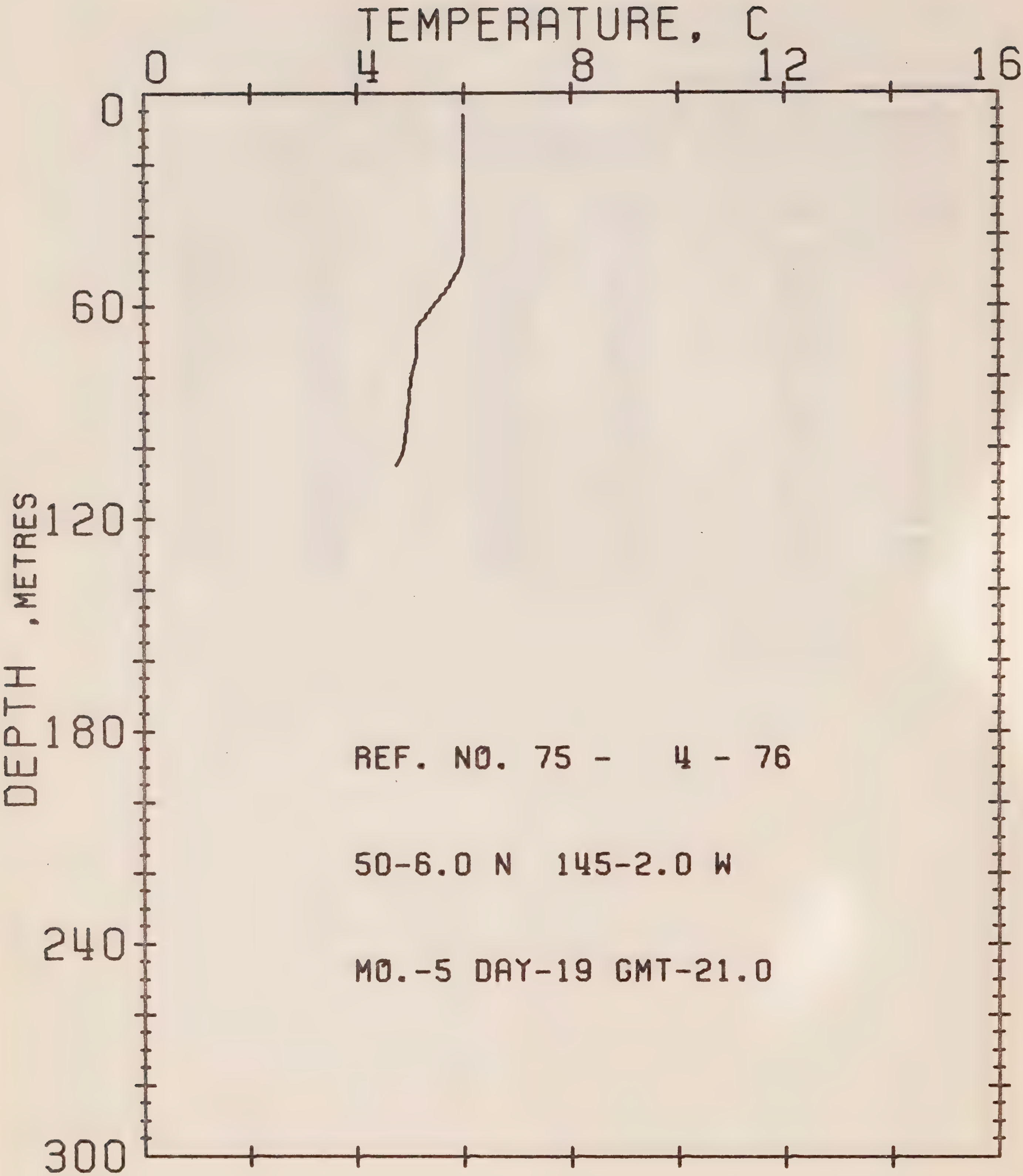


0430 / 26-06-75
48° 33' N.
125° 32' W.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH .METRES
REF. NO. 75 - 4 - 5
48-51.0 N 128-40.0 W
MO.-5 DAY-10 GMT-10.8

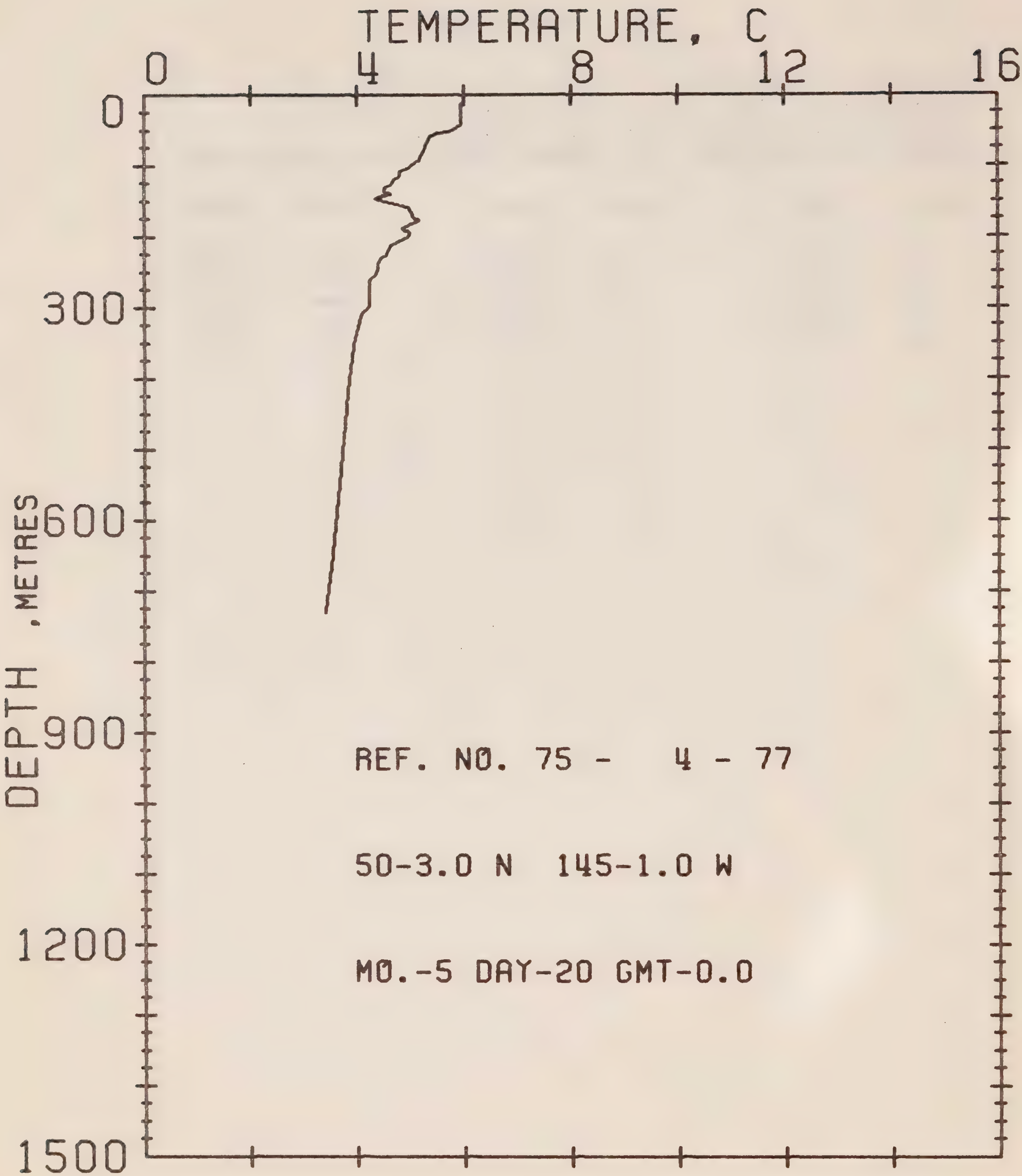
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 4- 5 DATE 10/ 5/75
POSITION 48-51.0N 128-40.0W GMT 10.8
RESULTS OF XBT CAST 42 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	8.19	81	6.96	255	5.28
6	8.08	93	6.91	276	5.28
17	8.03	104	6.80	287	5.12
28	8.03	112	6.75	307	5.12
32	7.97	138	6.59	310	5.01
38	7.76	163	6.42	316	5.01
41	7.65	174	6.37	319	4.90
44	7.60	181	6.21	338	4.90
53	7.60	187	6.15	341	4.79
57	7.50	193	5.99	396	4.57
60	7.34	206	5.94	455	4.35
64	7.23	220	5.83	518	4.18
66	7.01	225	5.67	609	3.96
68	6.96	243	5.45	746	3.63


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
DEPTH ,METRES
REF. NO. 75 - 4 - 76
50-6.0 N 145-2.0 W
MO.-5 DAY-19 GMT-21.0

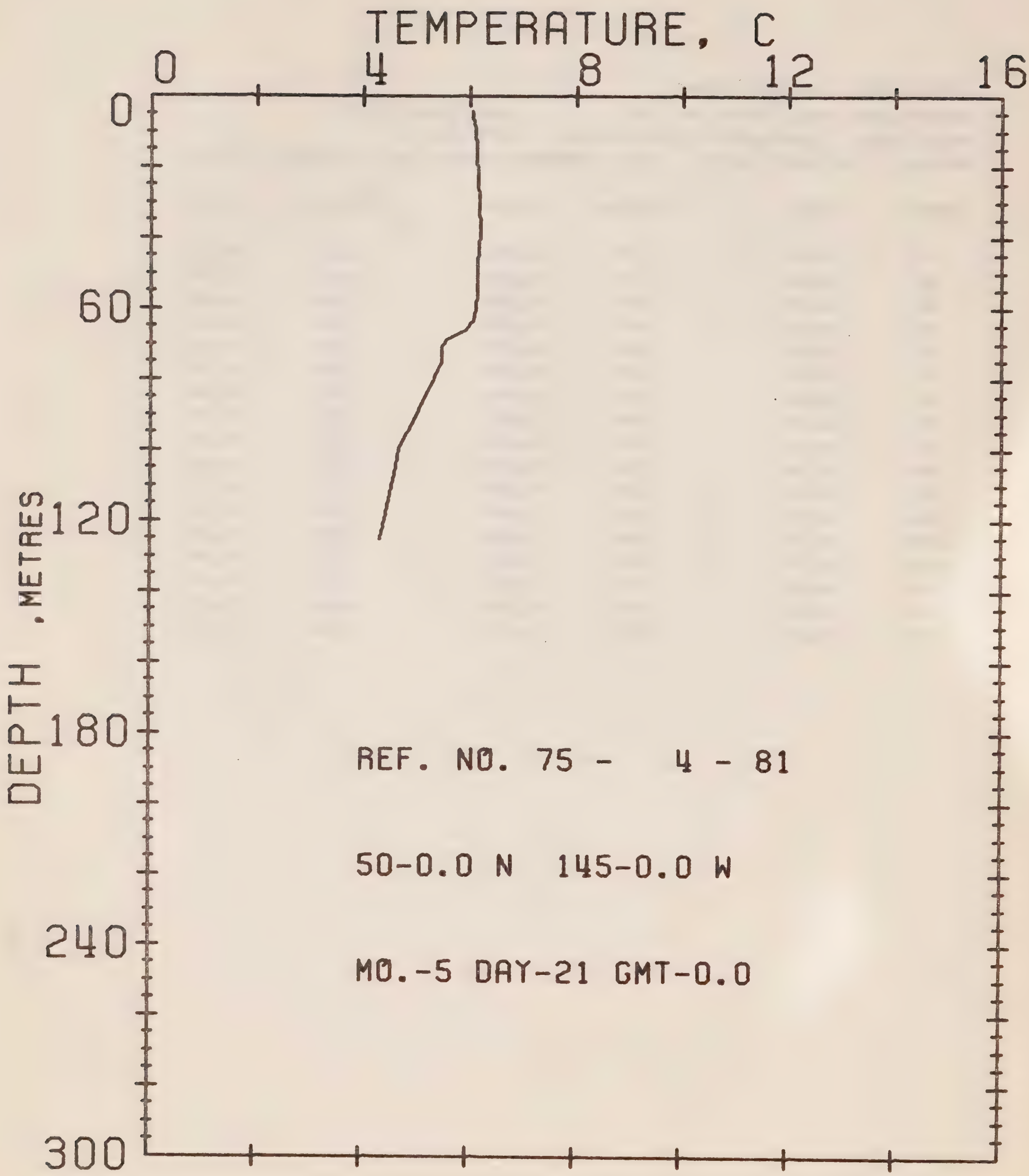
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 4- 76 DATE 19/ 5/75
POSITION 50-06.0N 145-02.0W GMT 21.0
RESULTS OF XBT CAST 15 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
6	5.99	55	5.72	81	5.01
17	5.99	59	5.50	90	4.96
33	5.99	62	5.34	98	4.90
45	5.99	66	5.12	102	4.85
49	5.94	74	5.12	105	4.74


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 4 - 77
50-3.0 N 145-1.0 W
MO.-5 DAY-20 GMT-0.0

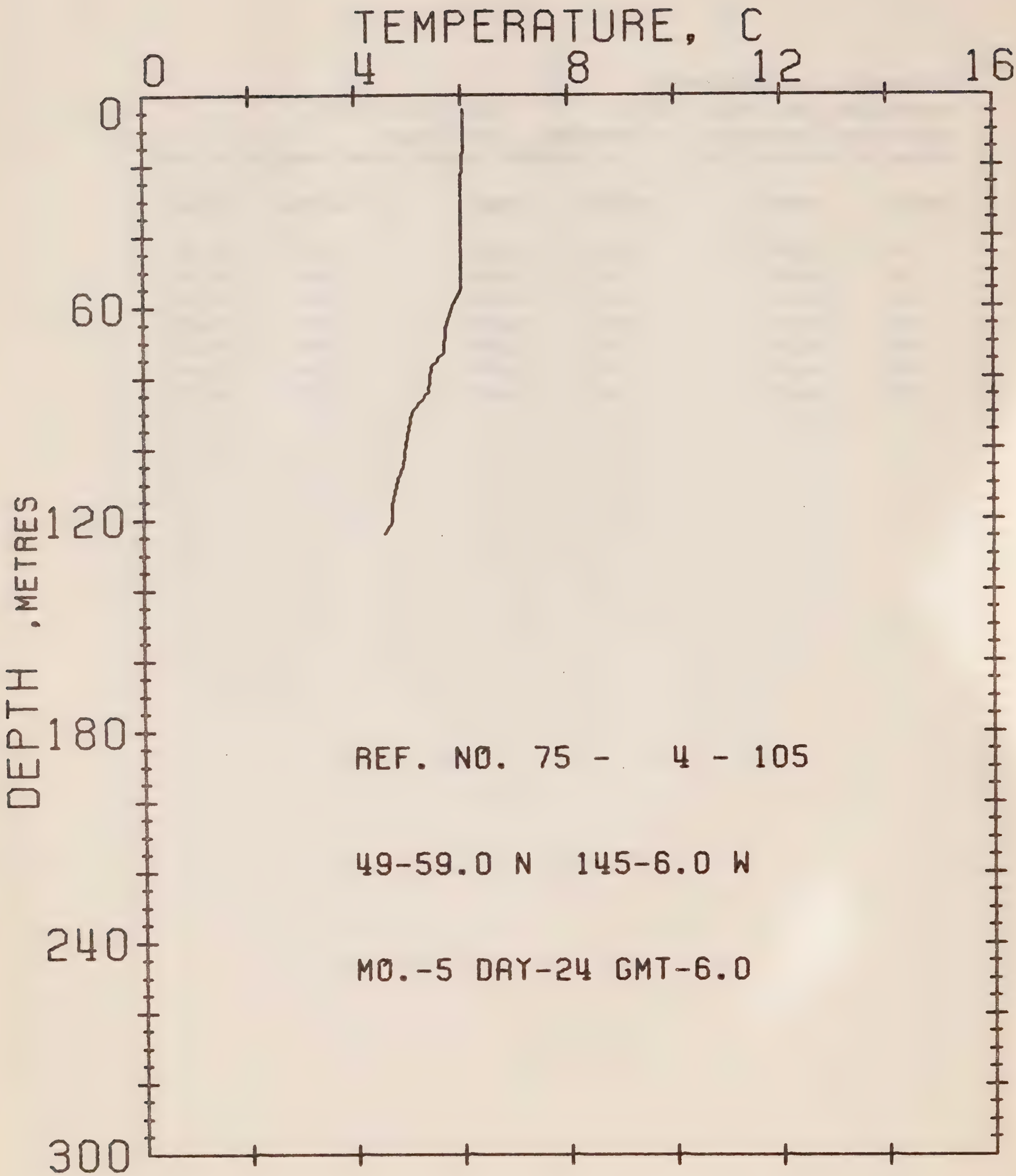
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 4- 77 DATE 20/ 5/75
POSITION 50-03.0N 145-01.0W GMT 00.0
RESULTS OF XBT CAST 51 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
13	5.94	137	4.57	212	4.63
25	5.94	140	4.63	225	4.57
36	5.94	143	4.52	231	4.46
42	5.94	145	4.35	241	4.41
46	5.88	149	4.52	249	4.41
51	5.72	154	4.74	255	4.35
54	5.50	158	4.96	262	4.24
57	5.39	166	5.01	281	4.24
74	5.28	172	5.07	293	4.24
92	5.18	178	5.18	298	4.24
99	5.01	181	5.01	307	4.13
104	4.96	184	4.96	314	4.07
108	4.79	187	4.85	354	3.96
114	4.79	190	4.90	420	3.85
120	4.68	194	5.01	550	3.68
126	4.63	200	4.96	665	3.52
132	4.52	206	4.79	730	3.41


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
DEPTH .METRES
REF. NO. 75 - 4 - 81
50-0.0 N 145-0.0 W
MO.-5 DAY-21 GMT-0.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 4- 81 DATE 21/ 5/75
POSITION 50-00.0N 145-00.0W GMT 00.0
RESULTS OF XBT CAST 21 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	6.05	63	6.10	89	5.07
6	6.05	64	6.05	91	5.01
9	6.10	66	5.94	95	4.85
23	6.15	69	5.61	100	4.68
38	6.21	71	5.50	105	4.63
48	6.15	75	5.50	118	4.46
56	6.15	84	5.23	125	4.35


TEMPERATURE, C
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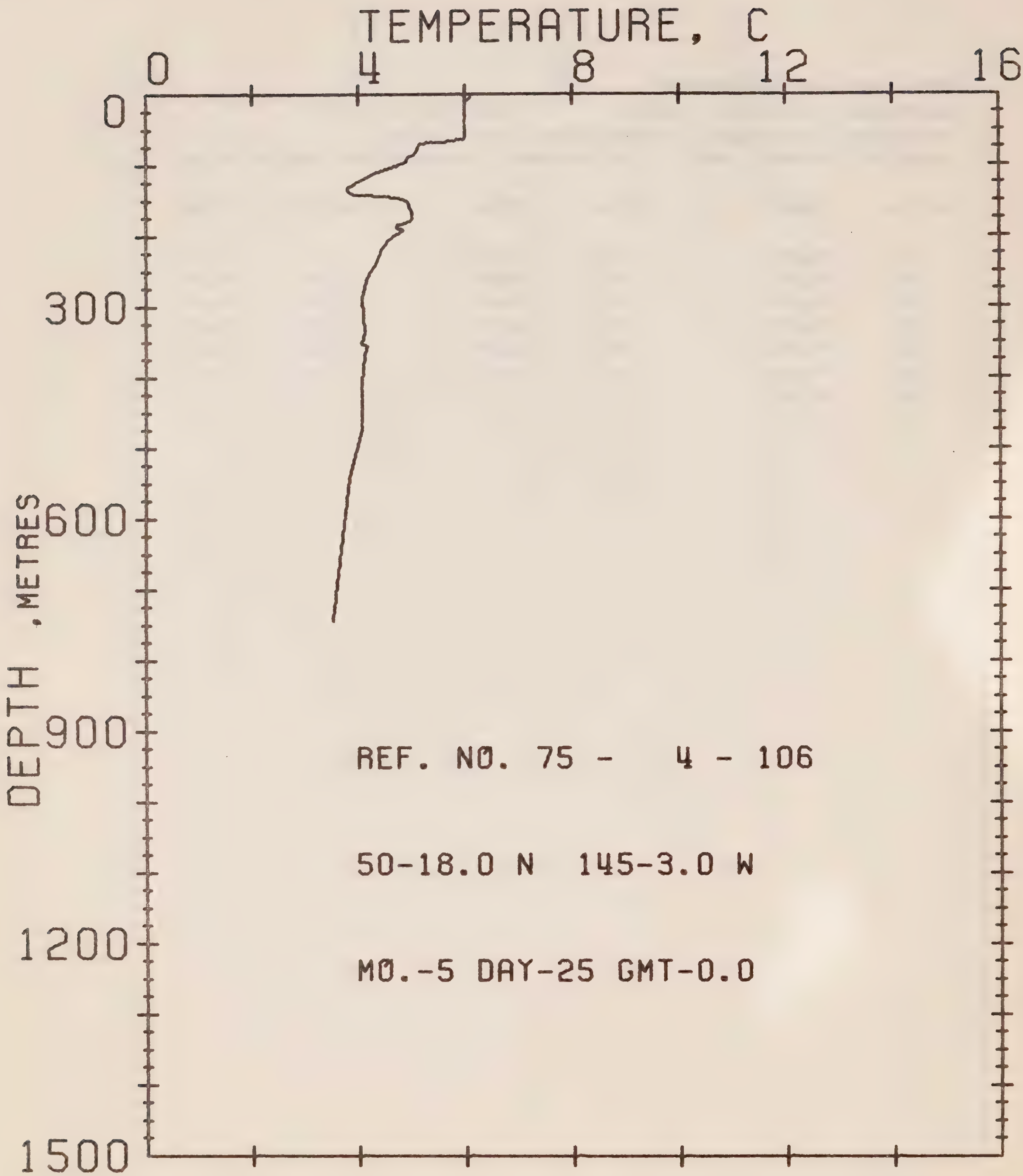
4
8
12
16
0
60
120
180
240
300
DEPTH ,METRES
REF. NO. 75 - 4 - 105
49-59.0 N 145-6.0 W
MO.-5 DAY-24 GMT-6.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 4-105 DATE 24/ 5/75
POSITION 49-59.0N 145-06.0W GMT 06.0
RESULTS OF XBT CAST 19 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	6.05	66	5.72	99	4.96
14	6.05	73	5.67	105	4.90
25	5.99	77	5.45	109	4.79
36	5.99	84	5.39	116	4.68
46	5.99	87	5.23	121	4.68
55	5.99	90	5.07	124	4.57
60	5.83				


TEMPERATURE, C
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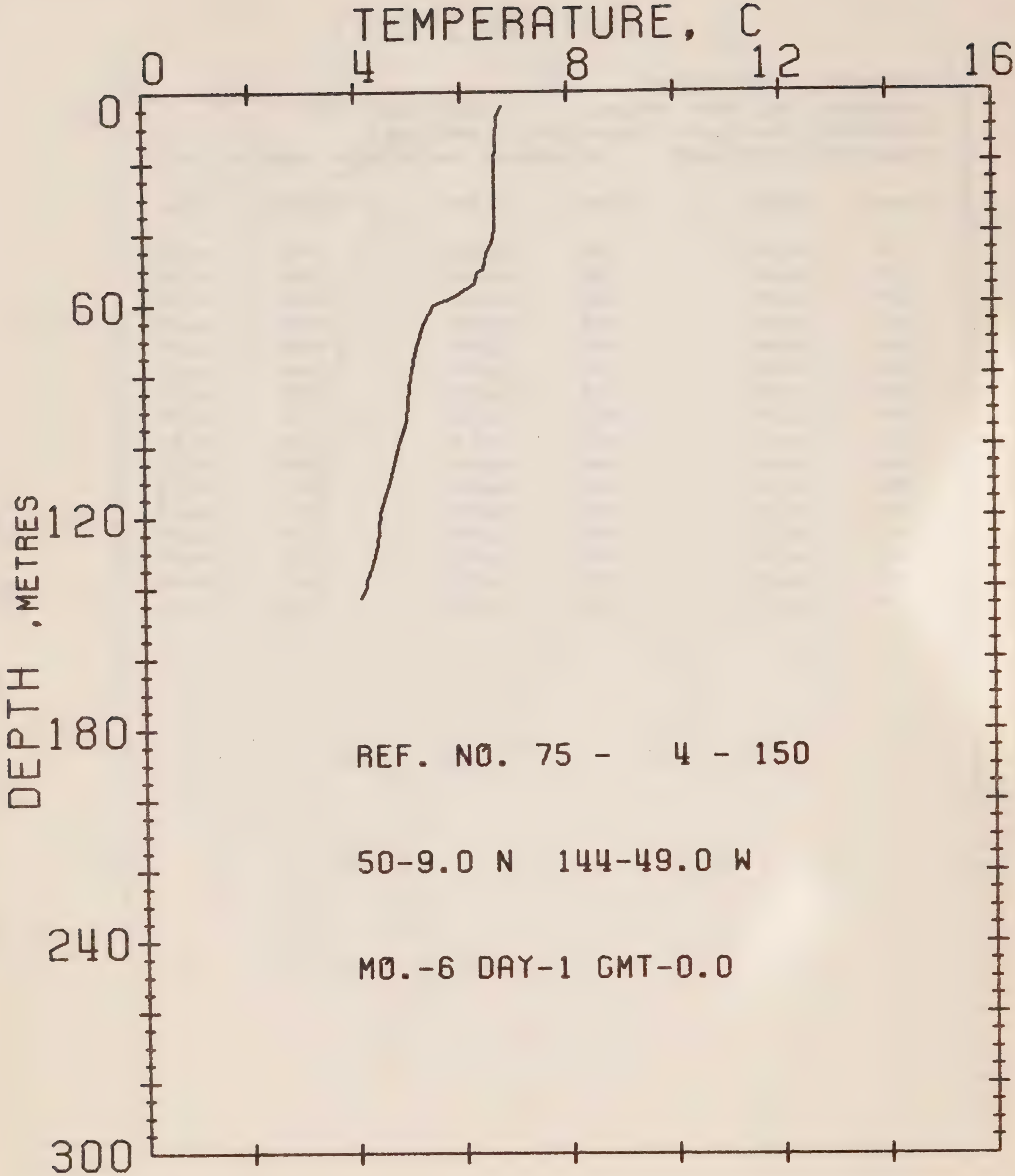
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 4 - 106
50-18.0 N 145-3.0 W
MO.-5 DAY-25 GMT-0.0

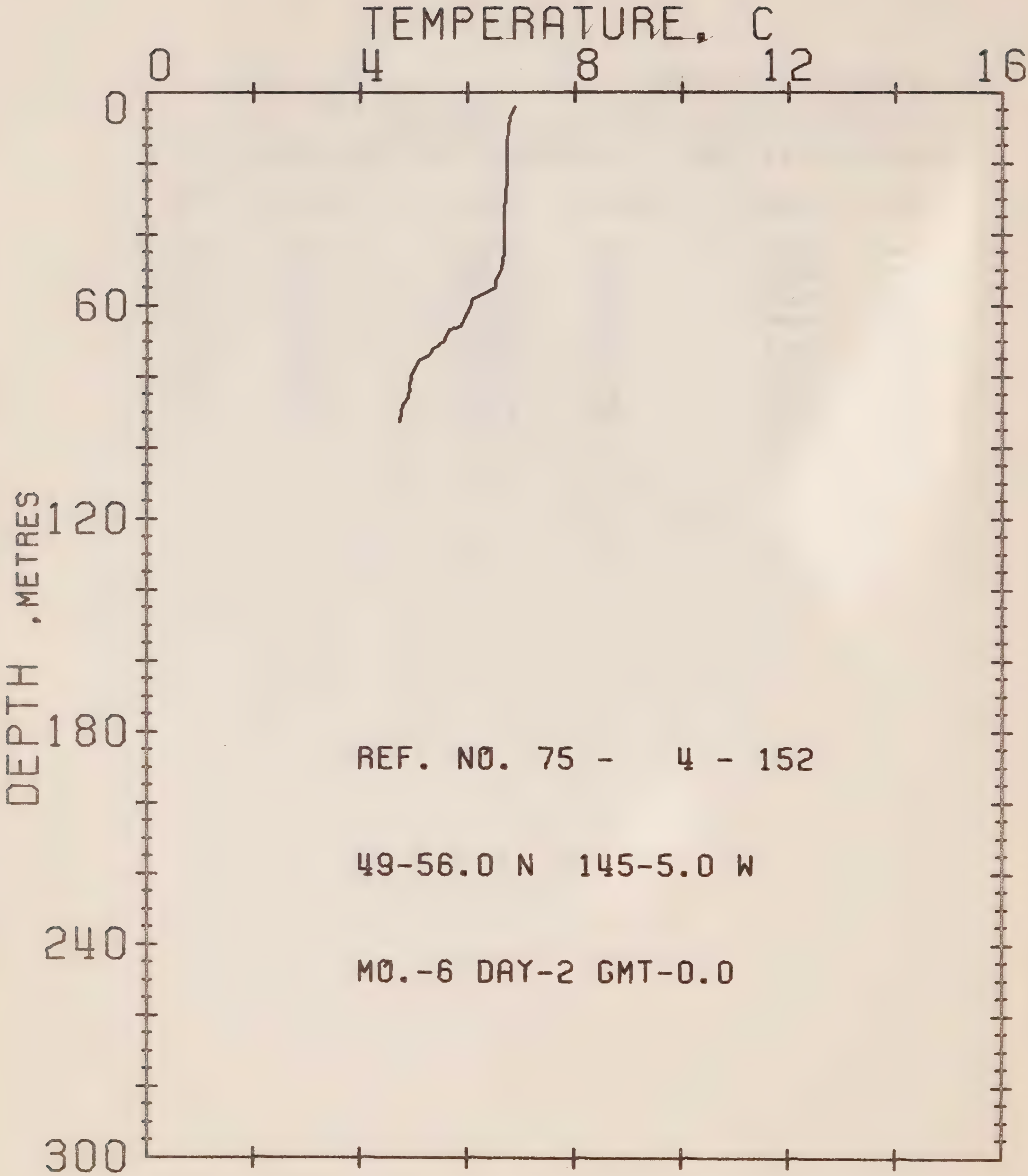
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 4-106 DATE 25/ 5/75
POSITION 50-18.0N 145-03.0W GMT 00.0
RESULTS OF XBT CAST 48 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	6.10	102	4.68	184	4.74
11	5.99	109	4.46	188	4.74
27	5.99	113	4.30	192	4.85
47	5.99	119	4.07	202	4.63
56	5.99	126	3.96	218	4.46
61	5.99	131	3.80	241	4.35
64	5.94	138	3.85	258	4.18
65	5.72	141	3.96	291	4.07
67	5.61	143	4.13	339	4.13
68	5.34	144	4.46	352	4.07
70	5.18	146	4.74	356	4.18
78	5.12	149	4.90	368	4.13
83	5.07	159	4.96	409	4.07
87	4.96	168	5.01	473	4.07
95	4.90	176	5.01	541	3.85
97	4.79	182	4.90	744	3.52


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
DEPTH ,METRES
REF. NO. 75 - 4 - 150
50-9.0 N 144-49.0 W
MO.-6 DAY-1 GMT-0.0

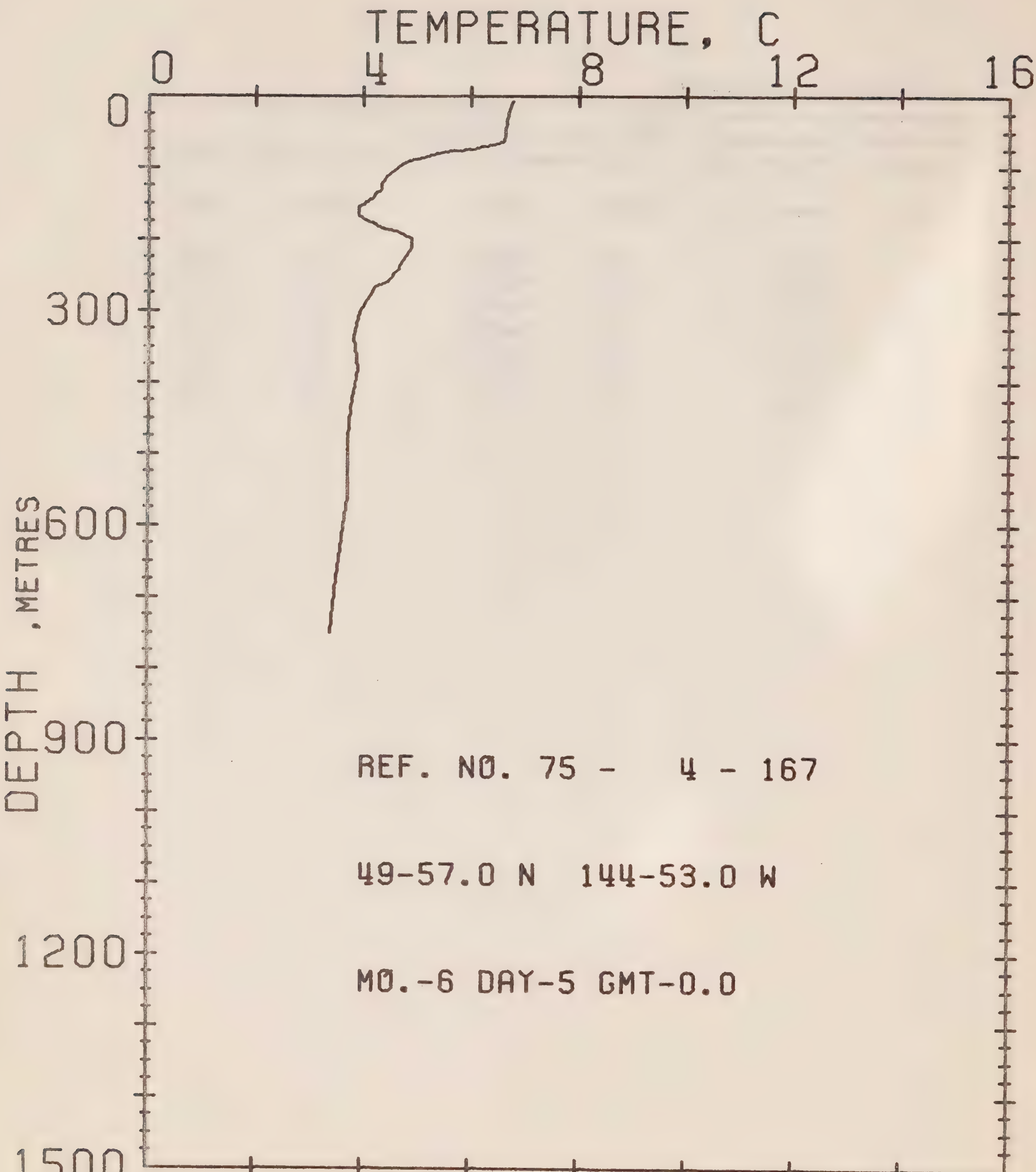
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 4-150 DATE 01/ 6/75
POSITION 50-09.0N 144-49.0W GMT 00.0
RESULTS OF XBT CAST 25 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	6.80	54	6.26	100	4.79
7	6.69	58	5.83	110	4.63
21	6.64	60	5.50	119	4.46
33	6.64	63	5.39	128	4.41
39	6.64	66	5.28	134	4.30
43	6.59	74	5.12	138	4.18
46	6.48	83	5.01	140	4.19
50	6.42	93	4.96	143	4.07
51	6.32				


TEMPERATURE, C
0
4
8
12
16
DEPTH ,METRES
0
60
120
180
240
300
REF. NO. 75 - 4 - 152
49-56.0 N 145-5.0 W
MO.-6 DAY-2 GMT-0.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 4-152 DATE 02/ 6/75
POSITION 49-56.0N 145-05.0W GMT 00.0
RESULTS OF XBT CAST 21 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	6.91	53	6.53	72	5.39
7	6.80	55	6.53	74	5.28
14	6.75	58	6.10	75	5.12
24	6.75	61	6.05	80	4.96
34	6.69	66	5.88	86	4.90
45	6.69	67	5.67	88	4.79
50	6.64	70	5.56	93	4.74


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 4 - 167
49-57.0 N 144-53.0 W
MO.-6 DAY-5 GMT-0.0

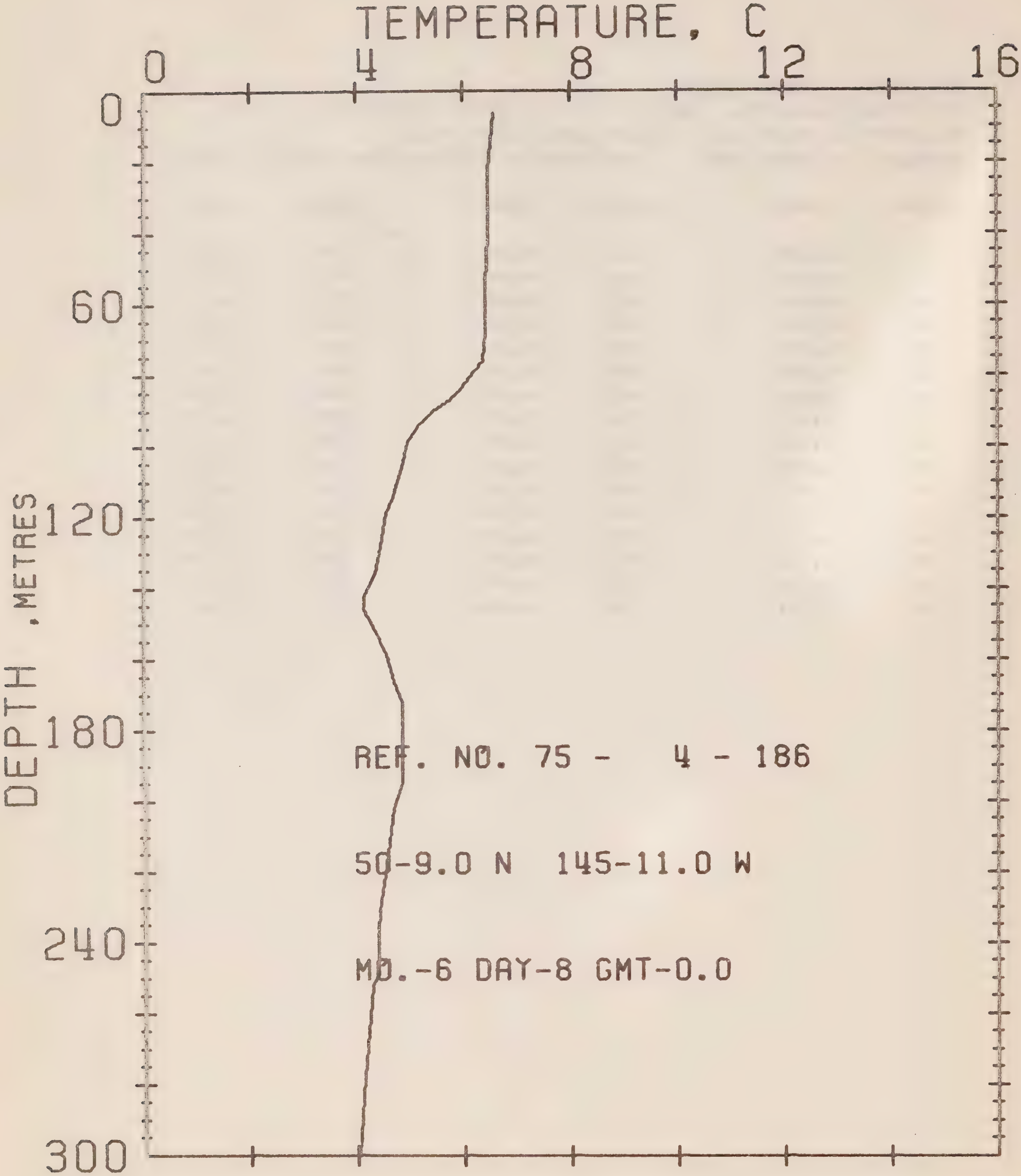
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 75- 4-167 DATE 05/ 6/75

POSITION 49-57.0N 144-53.0W GMT 00.0

RESULTS OF XBT CAST 48 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
6	6.80	101	4.63	198	4.90
14	6.75	111	4.46	213	4.90
26	6.69	122	4.35	230	4.74
48	6.64	129	4.35	244	4.63
57	6.64	136	4.24	257	4.52
63	6.59	143	4.18	262	4.41
68	6.42	149	4.02	266	4.24
70	6.21	154	3.91	279	4.13
74	6.05	161	3.91	302	3.96
76	5.67	167	3.91	338	3.85
77	5.50	173	4.07	382	3.91
81	5.28	178	4.24	436	3.80
83	5.18	182	4.30	479	3.74
85	5.12	185	4.46	559	3.74
88	4.96	187	4.63	673	3.52
92	4.79	192	4.74	749	3.41


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
DEPTH ,METRES
REF. NO. 75 - 4 - 186
50-9.0 N 145-11.0 W
MO.-6 DAY-8 GMT-0.0

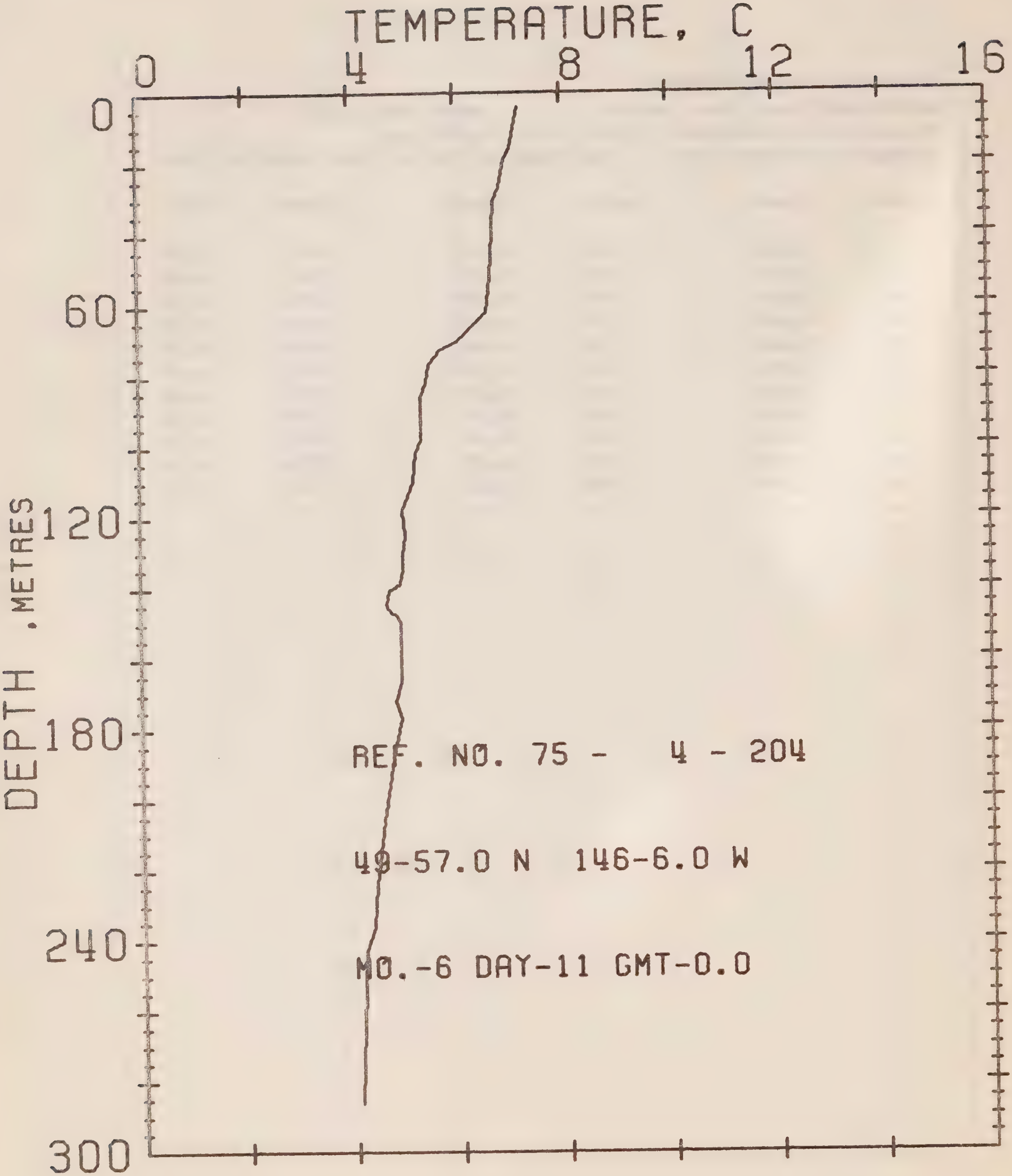
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 75- 4-186 DATE 08/ 6/75

POSITION 50-09.0N 145-11.0W GMT 00.0

RESULTS OF XBT CAST 34 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
6	6.59	99	4.96	172	4.85
15	6.53	106	4.85	187	4.85
23	6.48	114	4.68	195	4.85
40	6.48	119	4.57	202	4.68
55	6.42	128	4.46	218	4.57
68	6.42	136	4.35	228	4.46
76	6.37	142	4.13	236	4.41
79	6.21	146	4.13	249	4.41
84	5.94	150	4.30	252	4.30
87	5.77	159	4.57	278	4.13
90	5.45	166	4.68	300	4.02
94	5.18				


TEMPERATURE, C
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4
8
12
16
0
60
120
180
240
300
DEPTH ,METRES
REF. NO. 75 - 4 - 204
49-57.0 N 146-6.0 W
MO.-6 DAY-11 GMT-0.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 4-204 DATE 11/ 6/75
POSITION 49-57.0N 146-06.0W GMT 00.0
RESULTS OF XBT CAST 37 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	7.23	86	5.34	148	4.85
8	7.18	98	5.34	150	4.90
16	7.07	102	5.23	163	4.90
19	6.96	110	5.18	167	4.90
27	6.85	118	4.96	172	4.79
31	6.75	125	5.01	177	4.90
47	6.69	131	4.96	188	4.74
56	6.64	135	4.96	206	4.57
62	6.59	139	4.90	224	4.41
70	6.05	141	4.68	236	4.35
73	5.72	145	4.63	243	4.18
77	5.50	146	4.68	286	4.07
82	5.45				

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS

(P-75-4)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 4

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	O/OO	C	WEST
75	5	9	2230	32.111	8.4	125-33
75	5	10	30	32.041	7.8	126- 0
75	5	10	320	32.029	7.2	126-40
75	5	10	700	32.387	6.4	127-40
75	5	10	1050	32.442		128-40
75	5	10	1615	32.570	5.4	130-40
75	5	10	2200	32.496		131-40
75	5	11	45	32.510	7.4	132-40
75	5	11	440	32.465		133-40
75	5	11	710	32.520	7.5	134-40
75	5	11	1400	32.473	6.5	136-40
75	5	11	1815	32.639		137-40
75	5	11	2100	32.627	6.5	138-40
75	5	12	230	32.664		139-40
75	5	12	525	32.651	6.6	140-40
75	5	12	900	32.674		141-40
75	5	12	1330	32.707	6.1	142-40
75	5	12	1915	32.707		143-40
75	5	13	0	32.734	5.9	144-28
75	5	14	0	32.743	6.9	ON STATION
75	5	15	0	32.731	6.5	ON STATION
75	5	16	0	32.737	6.2	ON STATION
75	5	17	0	32.742	6.2	ON STATION
75	5	18	0	32.721	6.0	ON STATION
75	5	19	0	32.729	6.0	ON STATION
75	5	20	0	32.736	6.0	ON STATION
75	5	21	0	32.716	6.1	ON STATION
75	5	22	0	32.721	6.1	ON STATION
75	5	23	0	32.708	6.1	ON STATION
75	5	24	0	32.709	6.1	ON STATION
75	5	25	0	32.705	6.0	ON STATION
75	5	26	0	32.707	6.1	ON STATION
75	5	27	0	32.707	6.3	ON STATION
75	5	28	0	32.703	6.3	ON STATION
75	5	29	0	32.704	6.9	ON STATION
75	5	30	0	32.700	7.0	ON STATION
75	5	31	0	32.721	6.5	ON STATION
75	6	1	0	32.715	6.7	ON STATION
75	6	2	0	32.699	6.6	ON STATION
75	6	3	0	32.702	6.6	ON STATION
75	6	4	0	32.702	6.8	ON STATION
75	6	5	0	32.704	6.6	ON STATION
75	6	6	0	32.707	6.6	ON STATION
75	6	7	0	32.710	6.4	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 4

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
75	6	8	0	32.701	6.6	ON STATION
75	6	9	0	32.698	6.6	ON STATION
75	6	10	0	32.698	6.7	ON STATION
75	6	11	0	32.697	7.3	ON STATION
75	6	12	0	32.669	6.8	ON STATION
75	6	13	0	32.675	7.1	ON STATION
75	6	14	0	32.626	7.1	ON STATION
75	6	15	0	32.674	6.9	ON STATION
75	6	16	0	32.632	7.3	ON STATION
75	6	17	0	32.646	7.6	ON STATION
75	6	18	0	32.642	7.7	ON STATION
75	6	19	0	32.643	8.3	ON STATION
75	6	20	0	32.650	7.6	ON STATION
75	6	21	0	32.652	7.4	ON STATION
75	6	22	0	32.644	7.6	ON STATION
75	6	23	0	32.631	8.2	ON STATION
75	6	23	840	32.637	8.5	142-40
75	6	23	1430	32.603	8.5	141-40
75	6	23	1750	32.590	9.2	140-40
75	6	23	2100	32.622	8.5	139-40
75	6	24	30	32.573	9.2	138-40
75	6	24	550	32.372	9.3	137-40
75	6	24	900	32.411	9.2	136-40
75	6	24	1330	32.392	9.4	135-40
75	6	24	1620	32.451	9.5	134-40
75	6	24	2035	32.430	9.9	133-40
75	6	25	1	32.416	10.2	132-40
75	6	25	345	32.528	10.3	131-40
75	6	25	640	32.208	10.9	130-40
75	6	25	1030	32.210	11.0	129-40
75	6	25	1340	32.258	11.0	128-40
75	6	25	1800	32.022	10.8	127-40
75	6	25	2331	32.176	10.3	126-40
75	6	26	230	32.109	12.0	126- 0
75	6	26	430	32.377	9.5	125-32

Pacific Marine Science Report 76-14

OCEANOGRAPHIC OBSERVATIONS AT OCEAN STATION P (50° N., 145° W.)

Volume 68

20 June – 17 September 1975

INSTITUTE OF OCEAN SCIENCES, PATRICIA BAY
Victoria, B.C.

For additional copies or further information, please write to:

Environment Canada

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OCEANOGRAPHIC OBSERVATIONS AT OCEAN STATION P (50°N, 145°W)

Volume 68

20 June - 17 September 1975

Institute of Ocean Sciences, Patricia Bay
Victoria, B.C.

June 1976

ABSTRACT

Physical, chemical and biological oceanographic observations are made from the weathership at Ocean Weather Station Papa, and between Esquimalt and Station Papa, on a routine continuing basis. Physical oceanography data only are shown, including profiles obtained with bottle casts, conductivity-temperature-pressure instruments, and mechanical and expendable bathythermographs. Surface observations are also shown.

INTRODUCTION

Canadian operation of Ocean Weather Station P (Latitude 50°00'N, Longitude 145°00'W) was inaugurated in December, 1950. The station is occupied primarily to make meteorological observations of the surface and upper air and to provide an air-sea rescue service. The station is manned by two vessels operated by the Marine Services Branch of the Ministry of Transport. They are the *CCGS VANCOUVER* and the *CCGS QUADRA*. Each ship remains on station for a period of six weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch.

Bathythermograph observations have been made at Station P since July 1952. A program of more extensive oceanographic observations commenced in August 1956. This was extended in April 1959, by the addition of a series of oceanographic stations along the route to and from Station P and Swiftsure Bank. These stations are known as Line P stations. The number of stations on Line P has been increased twice and now consists of twelve stations (Fig. 1). Bathythermograph observations and surface salinity sample collections, in addition to being made on Line P oceanographic stations, are also made at odd meridians at 40', i.e. 139°40'W, 141°40'W, etc. These stations are known as Line P BT stations. Data observed prior to 1968 has been indexed by Collins *et al.* (1969).

The present record includes hydrographic, bathythermograph and continuously sampled STP data collected from the *CCGS VANCOUVER* during the period 20 June to 6 August 1975; surface temperature and salinity data collected from the *CCGS QUADRA* during the period 1 August to 17 September 1975.

All physical oceanographic data have been stored by the Canadian Oceanographic Data Centre (CODC), 615 Booth Street, Ottawa, Ontario, Canada. Requests for these data should be directed to CODC.

Biological and productivity data are published in the Manuscript Report series of the Fisheries Research Board of Canada (FRB), the Biological Station, Nanaimo, British Columbia, Canada. Requests for these data should be directed to FRB.

Marine geochemical data are for the Ocean Chemistry Group, Ocean and Aquatic Sciences, Environment Canada, 512 - 1230 Government Street, Victoria, British Columbia, Canada.

PROGRAM OF OBSERVATIONS FROM *CCGS VANCOUVER*, 20 JUNE - 6 AUGUST 1975 (P-75-5) (CODC Ref. No. 15-75-005)

Oceanographic observations were made by Ms. K.A. Coates and Ms. W.E. Grant of Chemex Labs Ltd., North Vancouver, B.C.

En route to Station P, all Line P stations were occupied and an STP profile made; stations 1 and 2 to near bottom, stations 3, 8 and 10 to 375 metres; all other stations to 1500 metres. A hydrocast to 1500 metres was taken at station 12 following the STP cast.

Salinity, nitrate, alkalinity and total CO_2 samples were taken from the seawater loop at all stations.

The thermosalinograph and the surface temperature recorder were run continuously.

Mechanical BT or XBT's were taken at all Line P and BT stations.

Surface tarball tows were made at stations 2, 4 and 5.

At Station P the oceanographic program was carried out as follows:

I. Physical Oceanography

1) Profiles of salinity, temperature and oxygen were obtained from 6 hydrographic stations to near bottom (4200 metres).

2) 12 STP profiles to 1500 metres and 25 to 375 metres were obtained.

3) BT's were taken every three hours to coincide with meteorological observations, encoded and transmitted according to the IGOSS format.

4) Salinity samples daily at 0000 hrs GMT from the seawater loop.

II. Marine Geochemistry

1) Samples for nutrients, tritium, alkalinity and total CO_2 were obtained from 6 depths to 500 metres. Nutrient, phosphate and salinity samples were also collected daily at 0000 hrs GMT and once every hour for a 24 hour period from the seawater loop.

2) Alkalinity and total CO_2 samples every 3 days from the seawater loop.

3) Air CO_2 samples weekly in quadruplicate.

4) 2 seawater C-14 samples were extracted from 45 gallons of water taken from the seawater loop.

5) 5 surface tarball tows were made at a speed of 4 knots. The duration of each tow was approximately 15 minutes.

6) The PCO_2 system was operated whenever the seawater loop was operational.

III. Biological and Productivity

Samples were obtained as follows:

1) 36 - 150 metre vertical plankton hauls
   2 - 1200 metre vertical plankton hauls
   11 - Surface plankton tows for 10 minutes at sundown.

2) Micro and nano organism samples were filtered daily from the seawater loop.

3) Samples for plant pigment, nitrate and C_{14} productivity were obtained from 3 hydrocasts to 200 metres.

En route from Station P only Line P stations 7-2 were occupied and an STP profile made to near bottom or 1500 metres. All other stations were missed due to poor weather conditions. Salinity, nitrate, alkalinity and total CO_2 samples were taken from the seawater loop at stations 12-2. Surface tarball tows were made at stations 7, 6, 5 and 2. The thermosalinograph and the surface temperature recorder were run continuously. The PCO_2 system was run continuously from station 11-3. Mechanical BT or XBT's were taken at all Line P and BT stations.

PROGRAM OF OBSERVATIONS FROM *CCGS QUADRA*, 1 AUGUST 1975 - 17 SEPTEMBER 1975 (P-75-6) (CODC Ref. No. 15-75-006)

Oceanographic observations were made by the ship's officers.

En route to and from Station P, mechanical BT's were taken only when weather permitted. The temperature recorder was run continuously.

At Station P the oceanographic program was carried out as follows:

1) Mechanical BT's were taken only when weather permitted every 3 hours to coincide with meteorological observations, encoded and transmitted according to the IGOSS format.

2) Salinity and nutrient samples were taken daily from the seawater loop.

3) Alkalinity and total CO_2 samples were taken every 3 days from the seawater loop.

4) Air CO_2 samples weekly in quadruplicate.

Observations for Other Agencies

1) Marine mammal observations were made by the ship's officers for Mr. I. McAskie, Fisheries Research Board of Canada, the Biological Station, Nanaimo, B.C., Canada.

2) Bird observations were made by the ship's officers for Dr. M. Myres, University of Alberta, Calgary, Alberta, Canada and Mr. J. Guiguet, Curator of Birds and Mammals, Provincial Museum, Department of Recreation and Conservation, Victoria, British Columbia, Canada.

3) Air CO_2 samples weekly in duplicate for Scripps Institute of Oceanography, La Jolla, San Diego, California, U.S.A.

Data was processed for publication by Messrs. C. de Jong, B. Minkley and E. Luscombe.

OBSERVATIONAL PROCEDURES

Temperatures at depth were measured by deep-sea-reversing thermometers of Richter and Wiese and/or Yoshino Keiki Co. manufacture. Two protected thermometers were used on all Niskin bottles, and one unprotected thermometer was used on each bottle at depths of 300 m or greater. The accuracy of protected reversing thermometers is believed to be ± 0.02°C.

Surface water temperatures were measured from a bucket sample using a deck thermometer of ± 0.1°C accuracy.

Salinity determinations were made aboard ship with either an Auto-lab Model 601 Mark III inductive salinometer or a Hytech Model 6220 lab salinometer. Accuracy using duplicate determinations is estimated to be ± 0.003 ‰.

Depth determinations were made using the "depth difference" method described in the U.S.N. Hydrographic Office Publication No. 607 (1955). Depth estimates have an approximate accuracy of ± 5 m for depths less than 1000 m, and ± 0.5% of depth for depths greater than 1000 m.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Carpenter, 1965).

Line P engine intake continuous temperatures on both ships were recorded by a Honeywell Electronik 15 Recorder. The temperature probe is at a depth of approximately 3 metres below the sea surface and the instrument accuracy is believed to be ± 0.1°C.

Each ship is equipped with a Plessey Model 6600-T thermosalinograph which is used, on Line P, for continuous recording of surface temperatures and salinities from the ship's seawater loop. The temperature probe is mounted at the seawater loop intake (approximately 3 metres below the surface) and the salinity probe and recorder are situated in the dry lab. The accuracy of this instrument is believed to be ± 0.1°C for temperature and ± 0.1 ‰ for salinity.

STP profiles were taken with a Plessey Model 9006 STP system.

COMPUTATIONS

All hydrographic data were processed with the aid of an IBM 360 computer. Reversing thermometer temperature corrections, thermometric depth calculations, and accepted depth from the "depth difference" method were computed. Extraneous thermometric depths caused by thermometer malfunctions are automatically edited and replaced. A Calcomp 565 Offline Plotter was used to plot temperature-salinity and temperature-oxygen diagrams, as well as plots of temperature, salinity, and dissolved oxygen vs $\log_{10}$ depth. These plots were used to check the data for errors.

Missing hydrographic data were obtained using a weighted parabolas interpolation method (Reiniger and Ross, 1968). These data are indicated with an asterisk in this data record.

Data values which we suspect but which we have included in this data record are indicated with a plus. These data have been removed from punch card and magnetic tape records.

Analog records from the salinity-temperature-pressure instrument have been machine digitized, then replotted using the Calcomp plotter.

Digitization was continued until original and computer plotted traces were coincident. Temperature and salinity values were listed at standard pressures; integrals (depths, geopotential anomaly, and potential energy anomaly) were computed from the entire array of digitized data.

The headings for the data listings are explained as follows:

PRESS	is pressure (decibars)
TEMP	is temperature (degrees Celsius)
SAL	is salinity (parts per thousand)
DEPTH	is reported in metres
SIGMA-T	is specific gravity anomaly
SVA	is specific volume anomaly
THETA	is potential temperature (degrees Celsius)
SVA (THETA)	is potential specific volume anomaly
DELTA D	is geopotential anomaly (J/kg)
POT EN	is potential energy in units of 10^8 ergs/cm^2
OXY	is the concentration of dissolved oxygen expressed in millilitres per litre
B-V PERIOD	is the Brunt-Vaisala period in minutes

REFERENCES

Carpenter, J.H., 1965. The Chesapeake Bay Institute technique for the Winkler dissolved oxygen method. Limnol. and Oceanogr., 10: 141-143.

Collins, C.A., R.L. Tripe, D.A. Healey and J. Joergensen, 1969. The time distribution of serial oceanographic data from the Ocean Station P programme. Fish. Res. Bd. Can. Tech. Rept. No. 106.

Reiniger, R.F. and C.K. Ross, 1968. A method of interpolation with application to oceanographic data. Deep Sea Res., 15: 185-193.

U.S.N. Hydrographic Office, 1955. Instruction Manual for oceanographic observations, Publ. No. 607.

LIST OF FIGURES

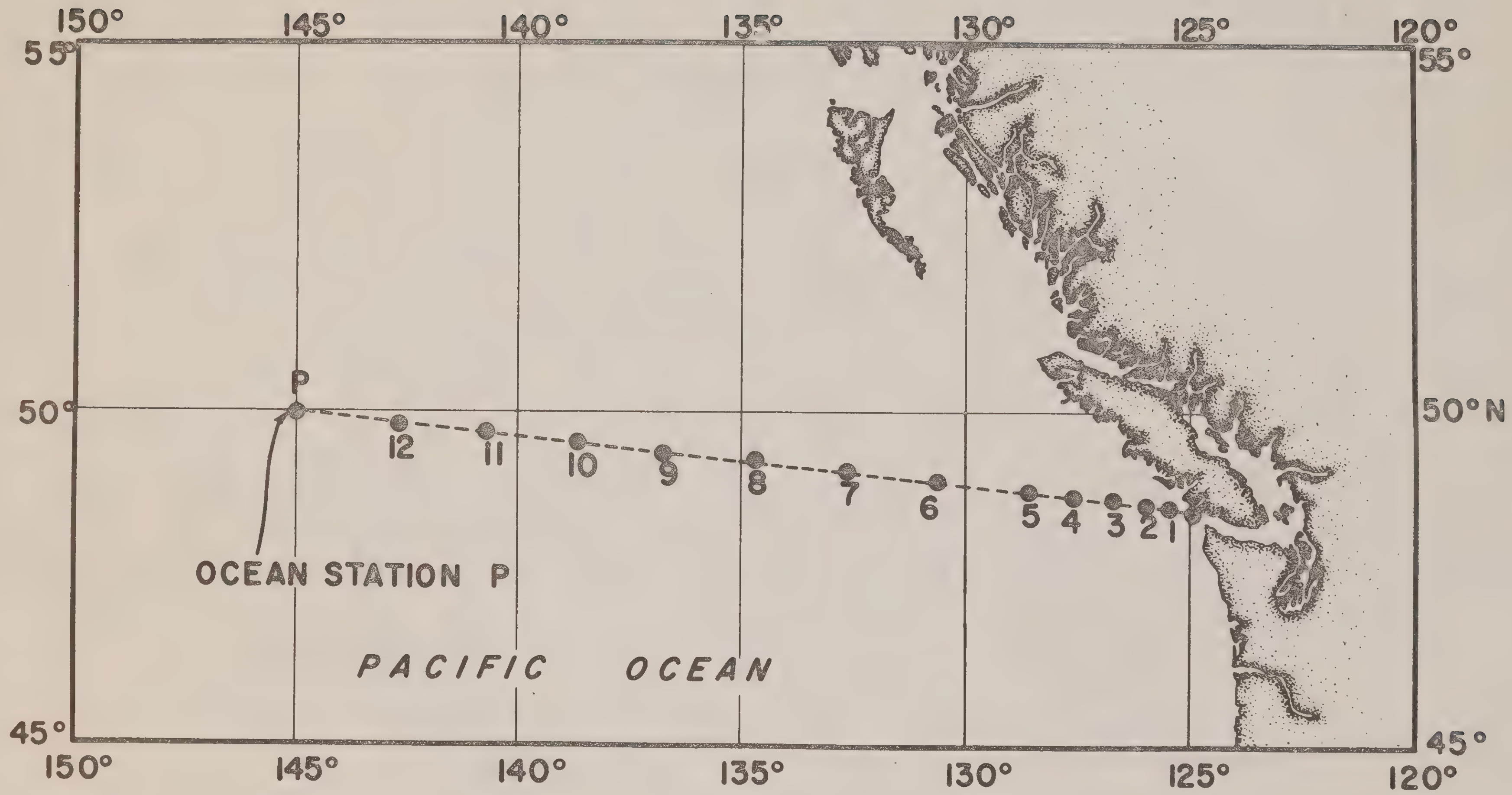


Fig. 1 Chart showing Line P station positions.

Oceanographic Data Obtained on Cruise P-75-5
(CODC Reference No. 15-75-005)

Results of Hydrographic Observations
(P-75-5)

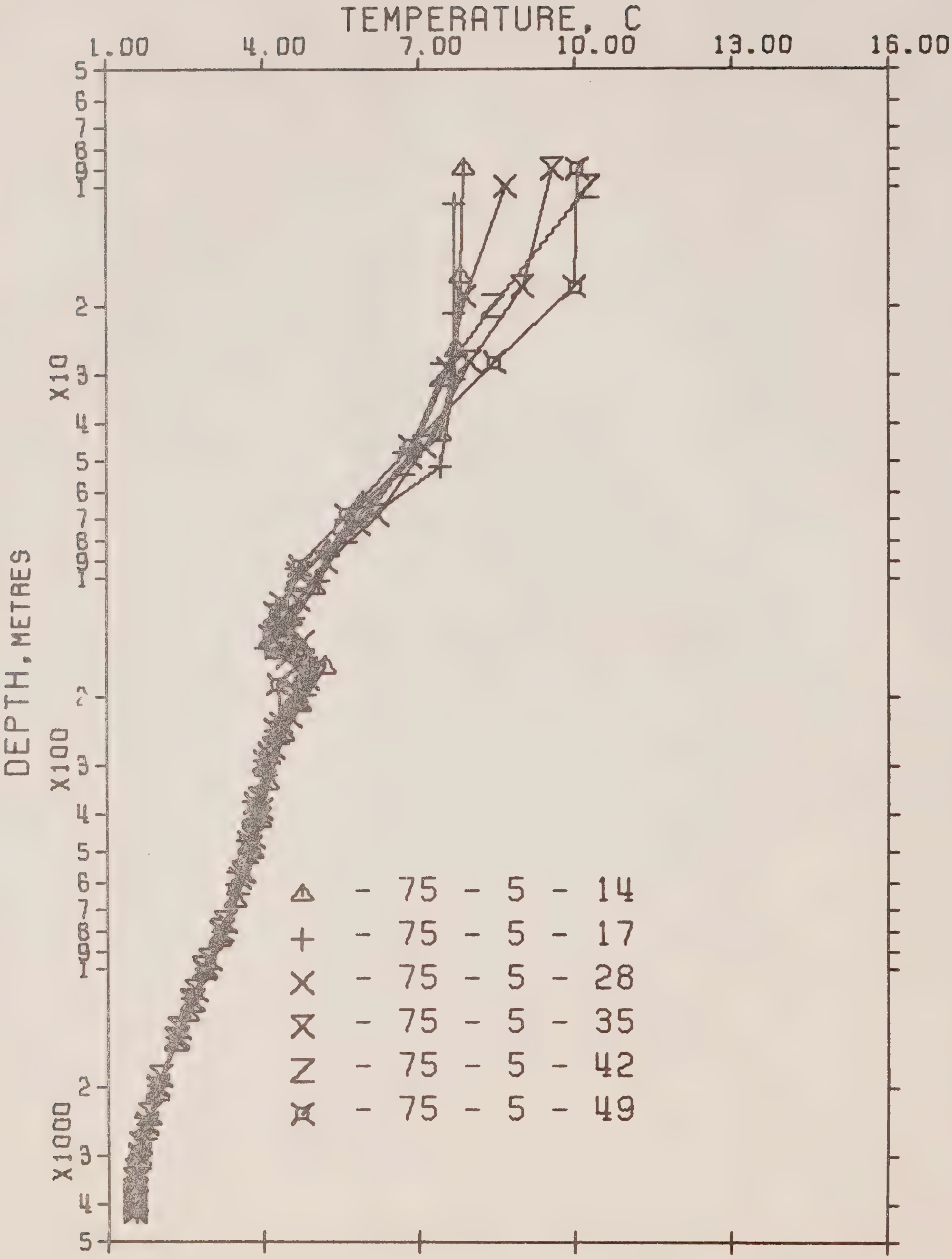


Figure 2. Composite plot of temperature vs $\log_{10}$ depth. P-75-5

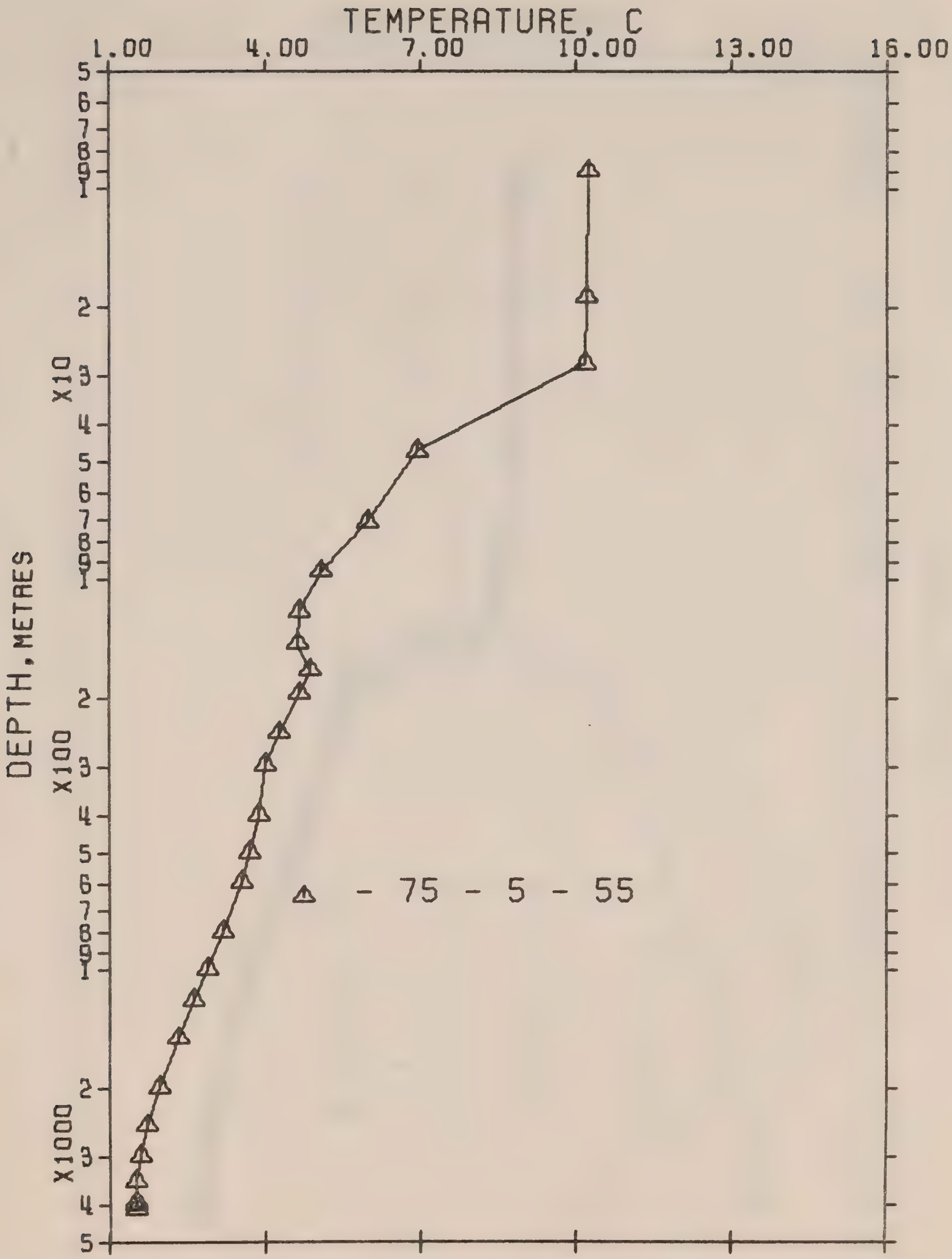


Figure 3. Composite plot of temperature vs $\log_{10}$ depth. P-75-5

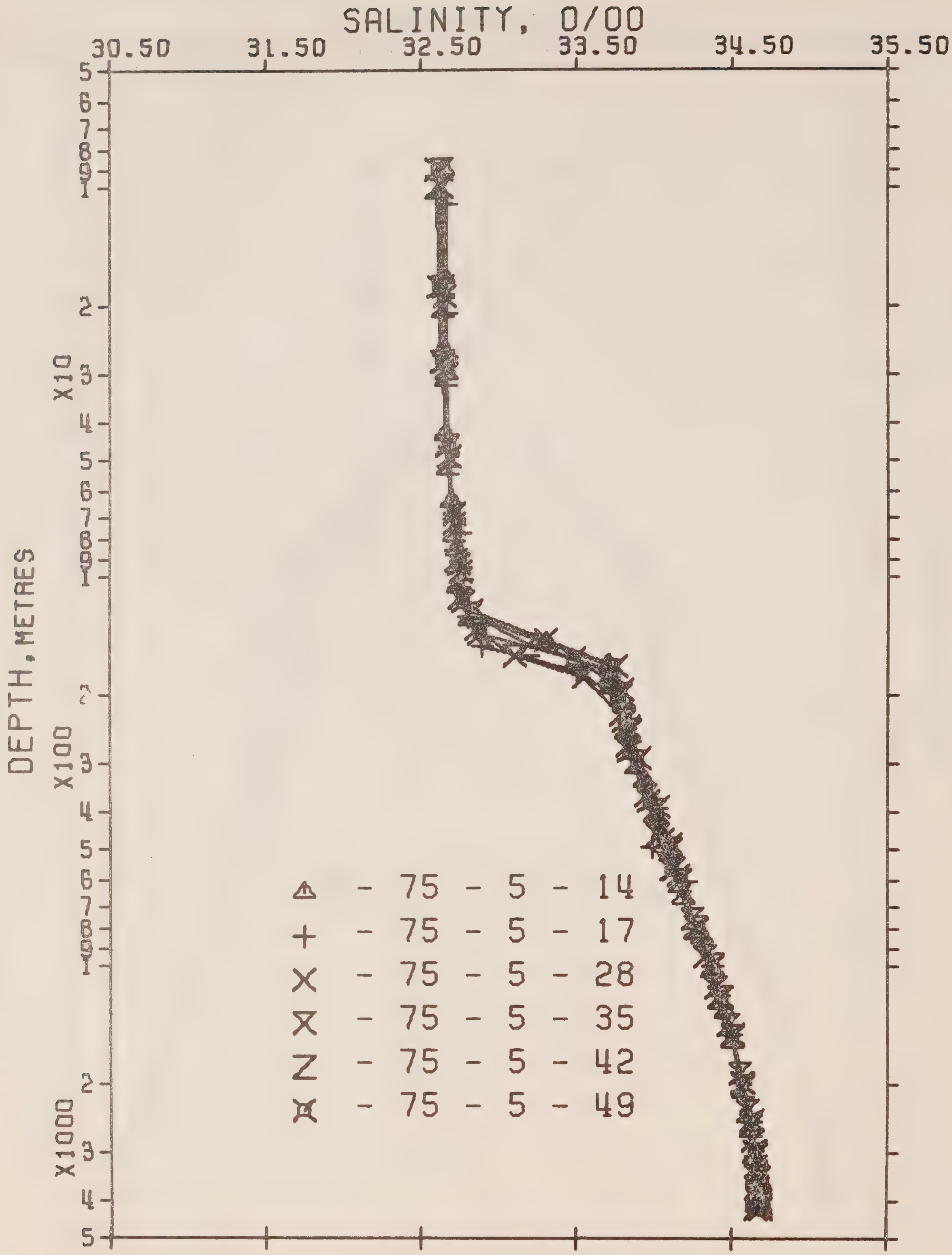


Figure 4. Composite plot of salinity vs $\log_{10}$ depth. P-75-5

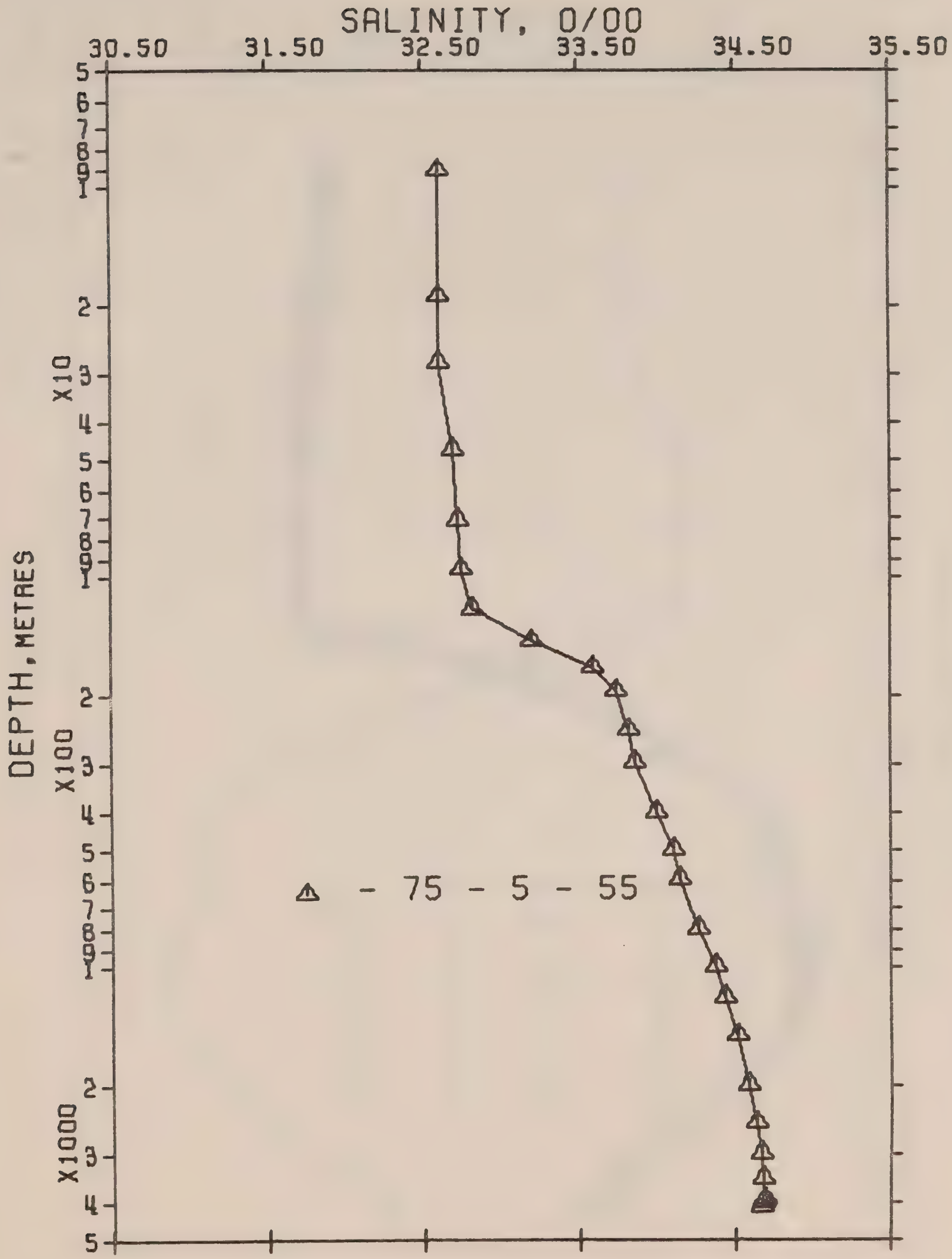


Figure 5. Composite plot of salinity vs $\log_{10}$ depth. P-75-5

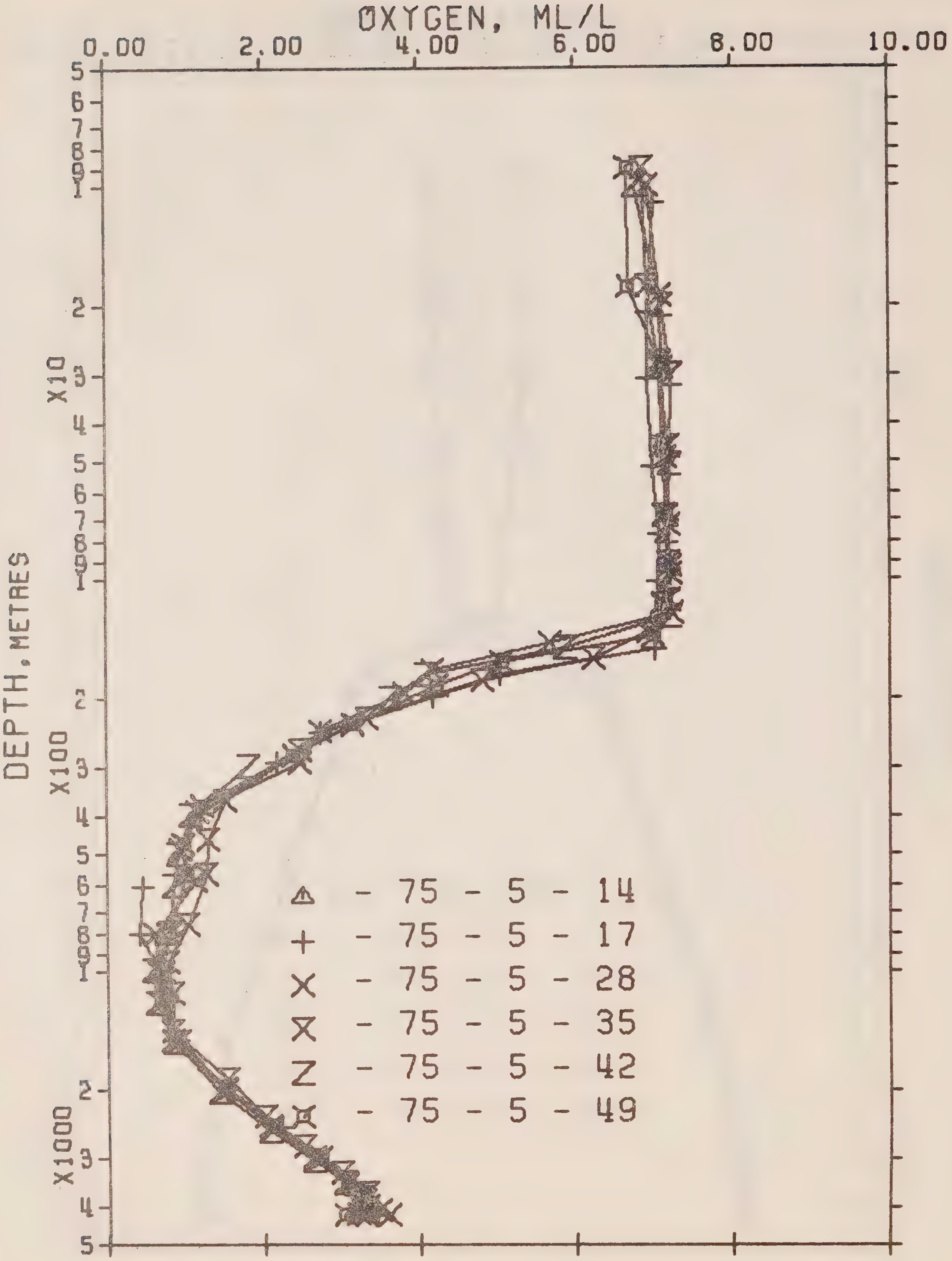


Figure 6. Composite plot of oxygen vs $\log_{10}$ depth. P-75-5

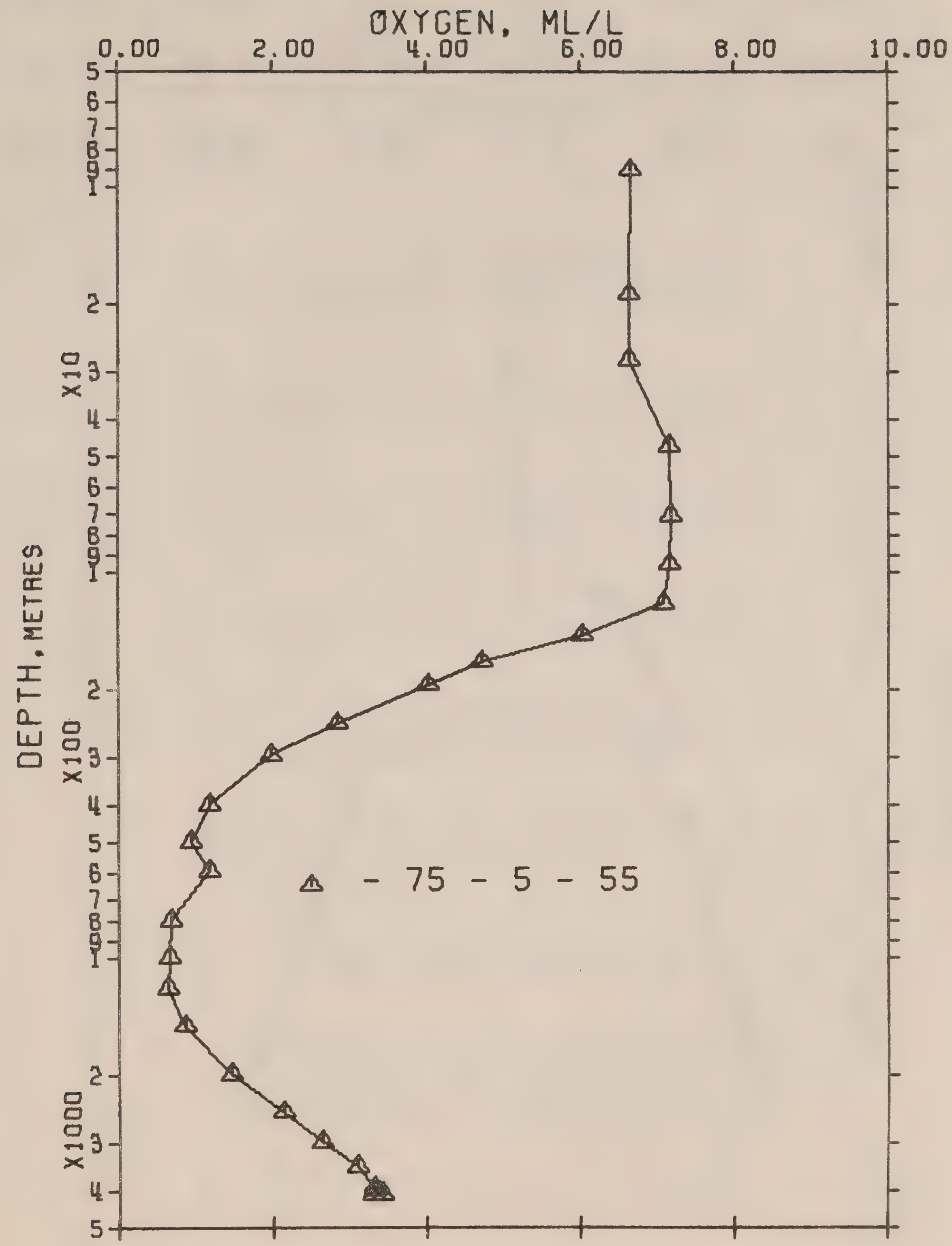
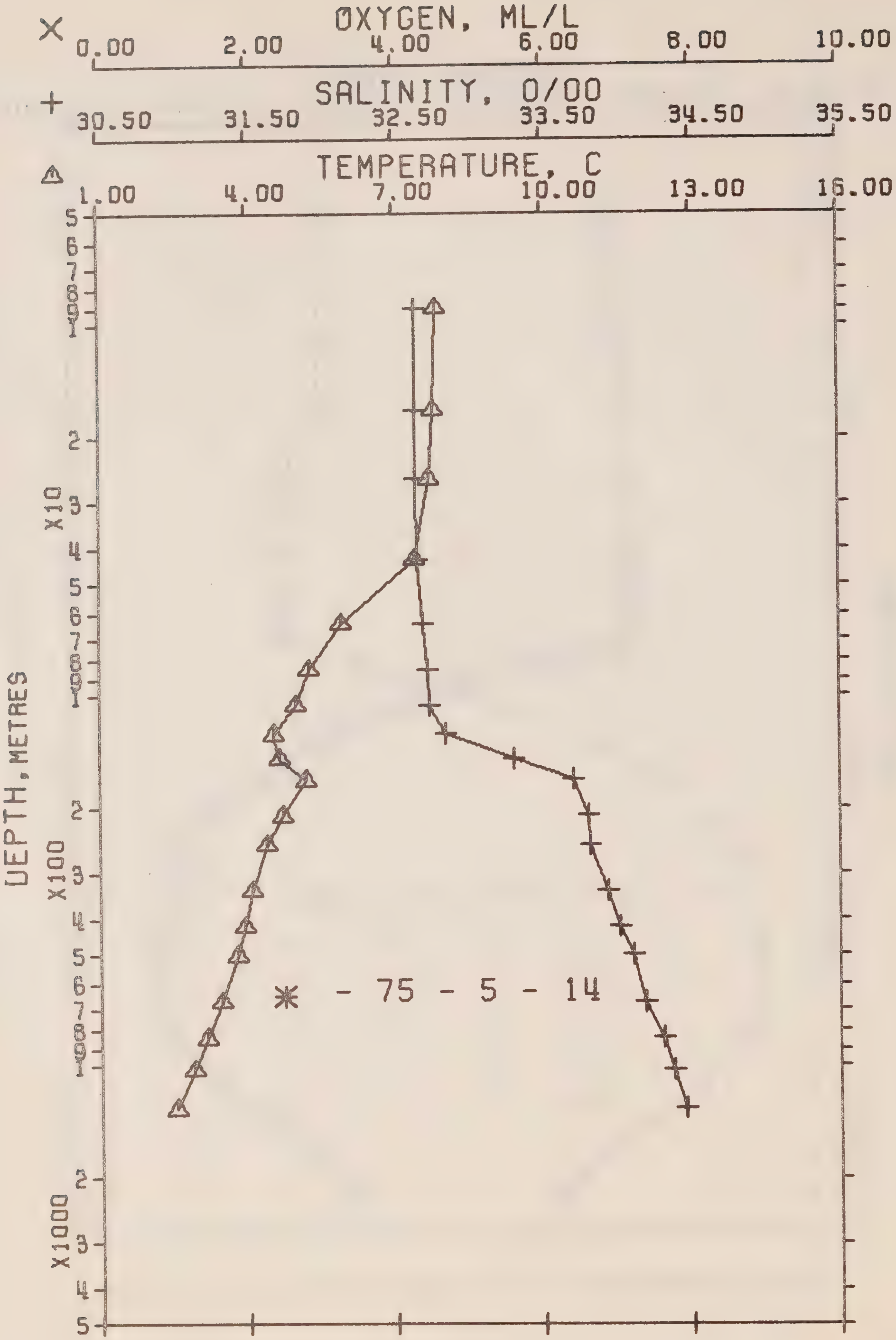
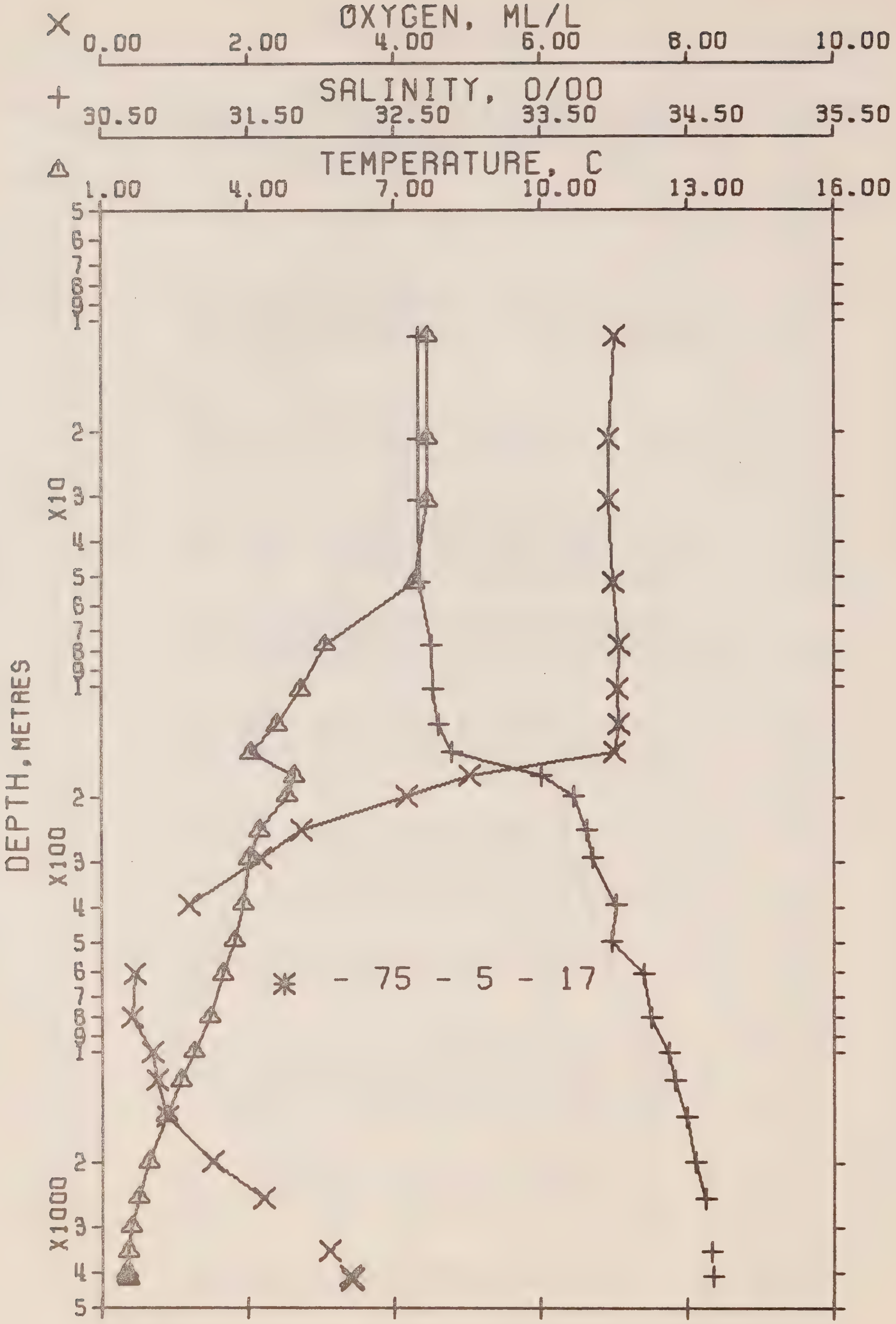


Figure 7. Composite plot of oxygen vs $\log_{10}$ depth. P-75-5


OXYGEN, ML/L
0.00 2.00 4.00 6.00 8.00 10.00
SALINITY, 0/00
30.50 31.50 32.50 33.50 34.50 35.50
TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 5 - 14

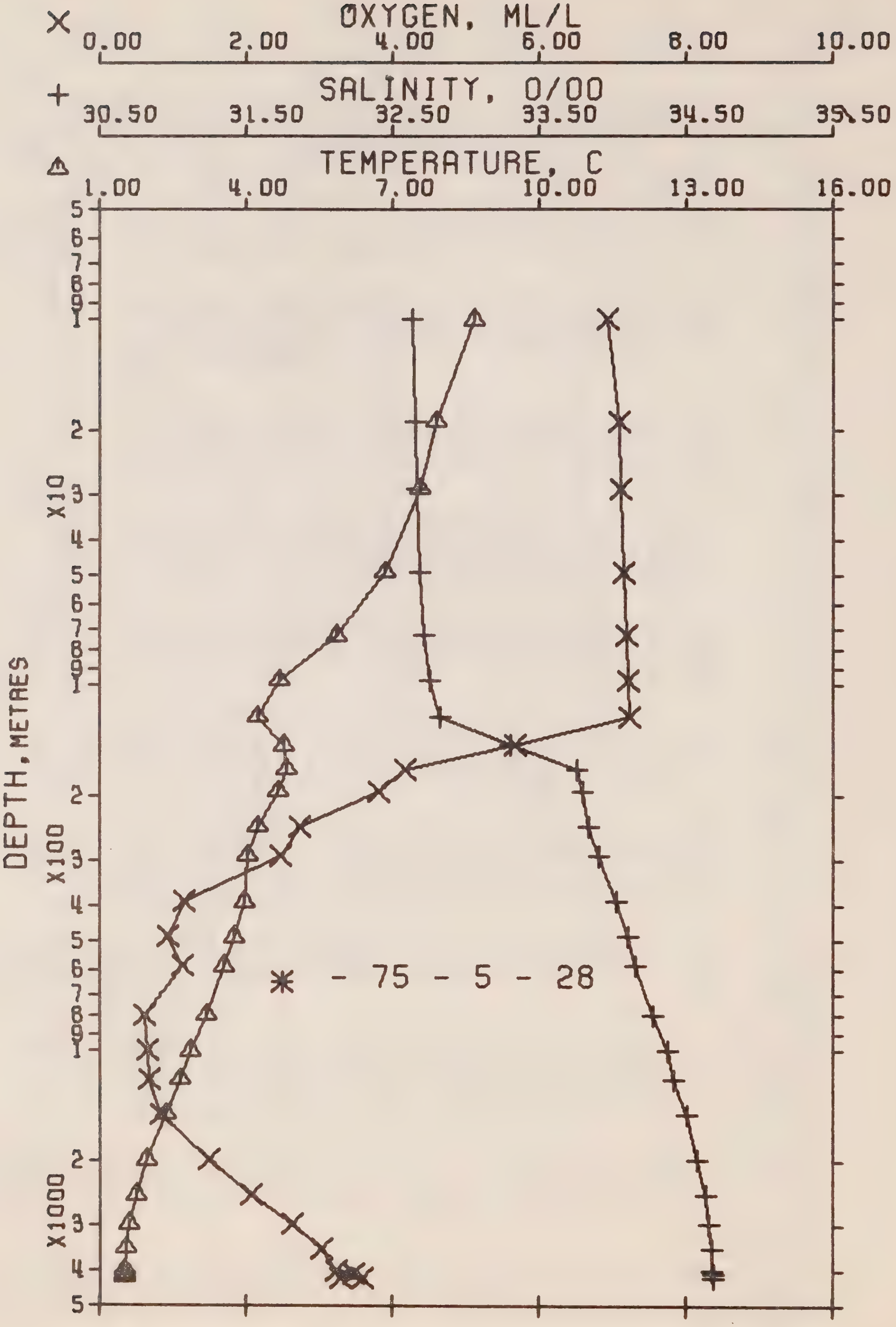
OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 5- 14 DATE 23/ 6/75
POSITION 49-49.0 N. 142-40.0 W GMT 15.4
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	8.09	32.648	0	25.440	255.1	8.09	254.9	0.0	0.0		1480.
9	7.87	32.647	9	25.471	252.2	7.87	251.9	0.23	0.01		1480.
17	7.80	32.648	17	25.482	251.4	7.80	250.8	0.43	0.04		1479.
26	7.71	32.650	26	25.496	250.1	7.71	249.4	0.66	0.09		1479.
43	7.42	32.659	43	25.544	245.8	7.42	244.9	1.08	0.24		1478.
64	5.93	32.697	64	25.768	224.5	5.92	223.6	1.58	0.51		1473.
86	5.26	32.730	85	25.874	214.7	5.25	213.5	2.04	0.86		1470.
107	4.98	32.740	106	25.913	211.1	4.97	209.8	2.50	1.31		1470.
128	4.54	32.855	127	26.052	198.0	4.53	196.6	2.93	1.83		1468.
149	4.65	33.308	148	26.399	165.3	4.64	163.6	3.32	2.37		1470.
170	5.20	33.714	169	26.658	141.2	5.19	139.0	3.64	2.89		1473.
212	4.71	33.810	211	26.790	128.9	4.69	126.5	4.20	3.98		1472.
254	4.39	33.818	252	26.831	125.3	4.37	122.5	4.72	5.23		1471.
338	4.10	33.942	335	26.960	113.7	4.08	110.3	5.72	8.24		1471.
421	3.94	34.021	418	27.039	106.8	3.91	102.7	6.64	11.81		1472.
505	3.79	34.111	501	27.126	99.1	3.75	94.5	7.50	15.87		1473.
675	3.46	34.190	669	27.221	91.0	3.41	85.4	9.11	25.56		1475.
849	3.16	34.312	841	27.346	80.0	3.10	73.4	10.59	37.06		1476.
1031	2.90	34.378	1021	27.423	73.4	2.83	66.1	11.98	50.40		1478.
1323	2.52	34.461	1309	27.522	64.7	2.43	56.6	14.00	74.45		1482.


OXYGEN, ML/L
0.00 2.00 4.00 6.00 8.00 10.00
SALINITY, 0/00
30.50 31.50 32.50 33.50 34.50 35.50
TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 5 - 17

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 5- 17 DATE 25/ 6/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 18.4
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	7.71	32.666	0	25.509	248.5	7.71	248.3	0.0	0.0	6.93	1479.
11	7.70	32.670	11	25.513	248.3	7.70	247.9	0.27	0.02	7.01	1479.
21	7.70	32.670	21	25.513	248.4	7.70	247.8	0.52	0.06	6.94	1479.
31	7.69	32.672	31	25.516	248.3	7.69	247.5	0.77	0.12	6.94	1479.
52	7.43	32.680	52	25.559	244.5	7.43	243.4	1.30	0.35	6.99	1479.
77	5.60	32.756	77	25.855	216.5	5.59	215.3	1.88	0.73	7.08	1472.
103	5.09	32.772	102	25.926	209.8	5.08	208.6	2.41	1.22	7.07	1470.
128	4.60	32.810	127	26.010	201.9	4.59	200.6	2.93	1.83	7.08	1469.
152	4.07	32.896	151	26.133	190.3	4.06	188.9	3.41	2.51	7.02	1467.
176	4.97	33.510	175	26.523	153.9	4.96	151.8	3.83	3.21	5.04	1472.
200	4.82	33.735	199	26.718	135.7	4.80	133.3	4.17	3.87	4.17	1472.
249	4.23	33.819	247	26.849	123.5	4.21	120.9	4.79	5.29	2.75	1470.
296	4.04	33.861	294	26.902	118.7	4.02	115.9	5.36	6.88	2.19	1470.
395	3.90	34.022	392	27.044	106.1	3.87	102.3	6.47	10.76	1.20	1472.
499	3.73	33.987	495	27.033	107.7	3.69	103.3	7.58	15.86		1473.
613	3.50	34.208	608	27.231	89.7	3.46	84.4	8.71	22.24	0.46	1474.
806	3.22	34.265	799	27.303	83.8	3.16	77.5	10.36	34.23	0.41	1476.
1006	2.89	34.378	996	27.423	73.1	2.82	66.0	11.92	48.63	0.71	1478.
1205	2.61	34.423	1193	27.484	67.8	2.53	60.2	13.32	64.42	0.76	1480.
1509	2.33	34.499	1492	27.568	60.7	2.23	52.1	15.26	91.27	0.89	1484.
2018	1.96	34.563	1993	27.649	53.8	1.82	44.2	18.15	143.32	1.51	1491.
2531	1.74	34.631	2497	27.721	48.0	1.56	37.2	20.44	187.38	2.21	1499.
3043	1.60		2999								1505.
3552	1.53	34.668	3497	27.766	45.5	1.25	32.3			3.13	1515.
4056	1.52		3987								1534.
4156	1.52	34.678	4084	27.775	46.3	1.18				3.41	1525.
4244	1.53		4171							3.44	1485.
4254	1.53		4181							3.42	1481.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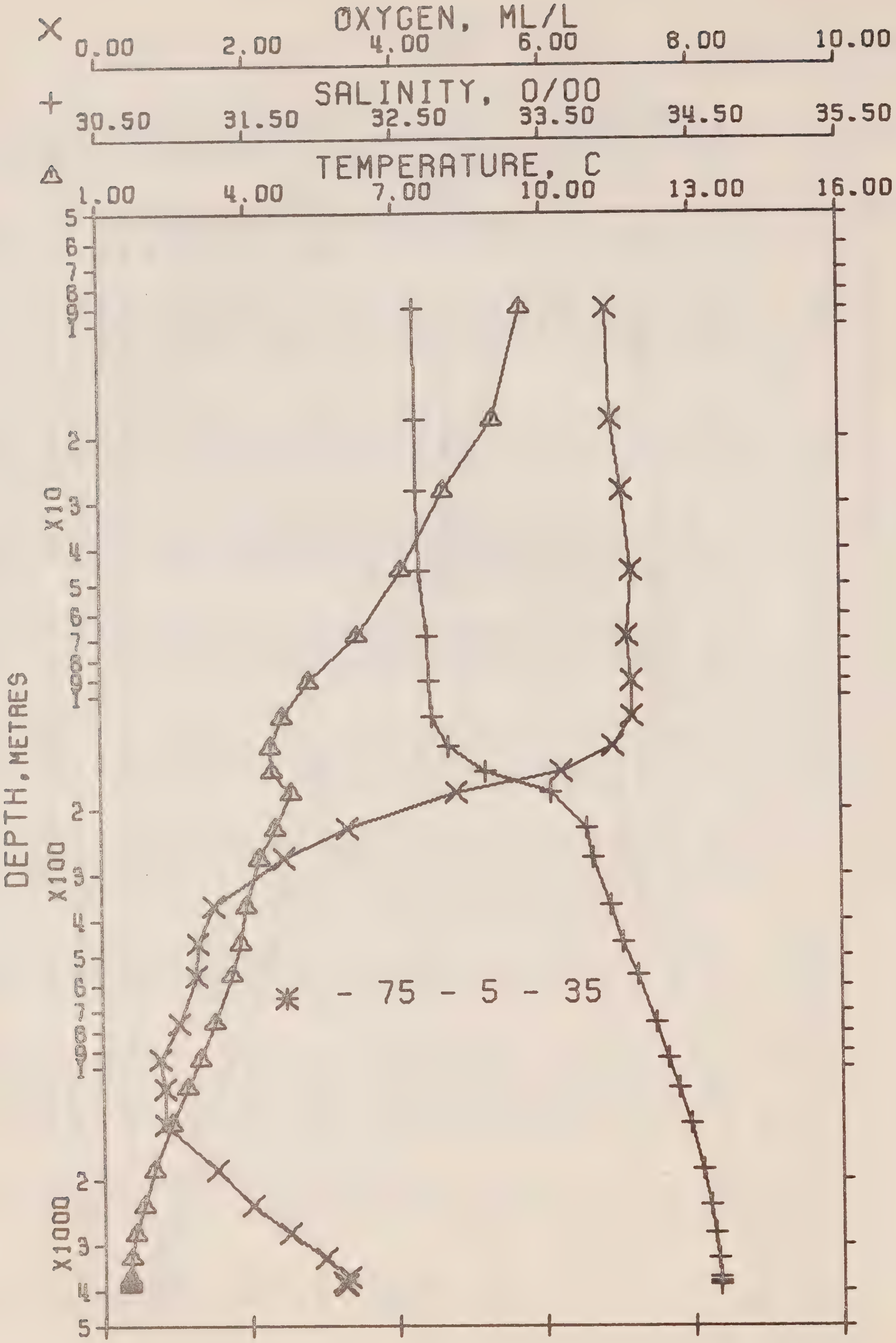
SALINITY, 0/00
30.50 31.50 32.50 33.50 34.50 35.50
TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 5 - 28

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 5- 28 DATE 2/ 7/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 17.9
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	8.81	32.640	0	25.326	266.0	8.81	265.8	0.0	0.0	6.89	1483.
10	8.68	32.642	10	25.347	264.0	8.68	263.7	0.27	0.01	6.94	1483.
19	7.89	32.663	19	25.481	251.5	7.89	251.0	0.50	0.05	7.10	1480.
29	7.57	32.671	29	25.533	246.7	7.57	246.0	0.75	0.11	7.11	1479.
49	6.85	32.690	49	25.646	236.1	6.85	235.2	1.24	0.30	7.17	1476.
73	5.86	32.723	73	25.797	221.9	5.85	220.8	1.79	0.65	7.19	1473.
98	4.68	32.761	97	25.962	206.2	4.67	205.1	2.31	1.10	7.23	1468.
123	4.25	32.832	122	26.064	196.7	4.24	195.5	2.82	1.68	7.23	1467.
147	4.79	33.313	146	26.387	166.4	4.78	164.7	3.26	2.28	5.68	1470.
171	4.85	33.757	170	26.732	134.1	4.84	132.0	3.62	2.86	4.17	1472.
196	4.67	33.796	195	26.783	129.4	4.66	127.2	3.95	3.48	3.81	1471.
245	4.23	33.842	243	26.867	121.8	4.21	119.2	4.55	4.84	2.74	1470.
294	4.04	33.912	292	26.942	115.0	4.02	112.0	5.14	6.45	2.49	1470.
393	3.96	34.028	390	27.042	106.3	3.93	102.5	6.23	10.27	1.16	1472.
492	3.77	34.112	488	27.128	98.7	3.74	94.2	7.24	14.83	0.94	1473.
591	3.55	34.158	586	27.187	93.7	3.51	88.6	8.19	20.08	1.14	1473.
805	3.18	34.283	798	27.321	82.0	3.12	75.8	10.07	33.47	0.62	1476.
1008	2.86	34.379	998	27.427	72.7	2.79	65.7	11.63	47.85	0.67	1478.
1209	2.65	34.421	1197	27.479	68.5	2.57	60.6	13.05	63.91	0.59	1480.
1513	2.34	34.512	1496	27.578	59.9	2.24	51.1	14.99	90.85	0.83	1484.
2018	1.96	34.584	1993	27.666	52.3	1.82	42.6	17.79	141.25	1.50	1491.
2525	1.74	34.638	2491	27.726	47.4	1.56	36.6	20.30	199.38	2.07	1499.
3034	1.60	34.662	2990	27.756	45.4	1.37	33.5	22.65	266.05	2.63	1507.
3547	1.53	34.678	3491	27.774	44.7	1.25	31.6	24.96	343.25	3.05	1515.
4063	1.51	34.684	3995	27.780	45.4	1.18	30.6	27.28	433.32	3.24	1524.
4167	1.52	34.686	4096	27.781	45.7	1.18	30.5	27.75	453.15	3.48	1526.
4261	1.52	34.692	4187	27.786	45.5	1.17	29.9	28.18	471.54	3.29	1527.
4271	1.52	34.694	4197	27.787	45.4	1.17	29.7	28.22	473.57	3.60	1527.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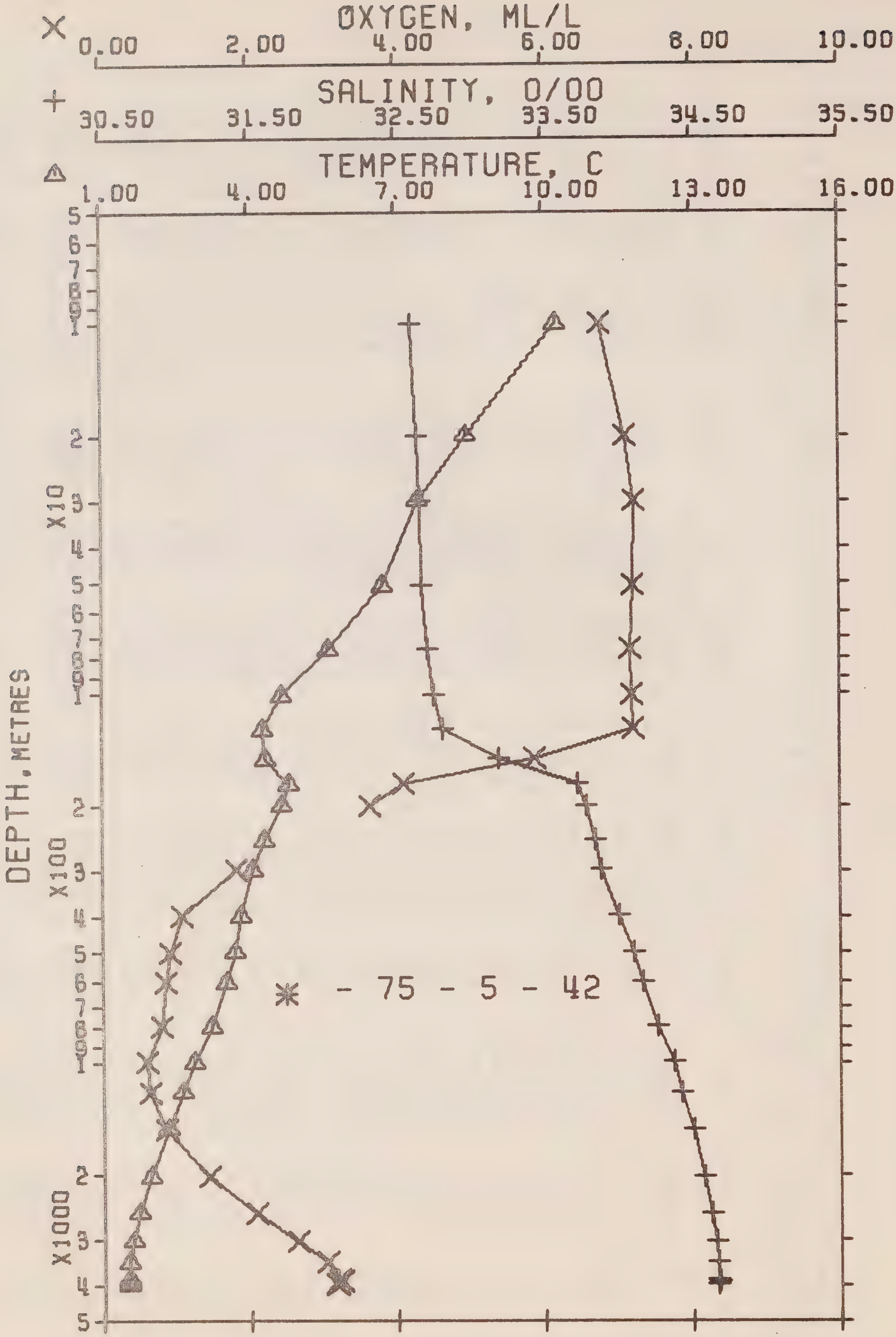
2.00
4.00
6.00
8.00
10.00
SALINITY, 0/00
30.50
31.50
32.50
33.50
34.50
35.50
TEMPERATURE, C
1.00
4.00
7.00
10.00
13.00
16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 5 - 35

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 5- 35 DATE 8/ 7/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 18.6
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	9.60	32.641	0	25.202	277.8	9.60	277.6	0.0	0.0	6.81	1485.
9	9.57	32.644	9	25.209	277.2	9.57	276.8	0.25	0.01	6.87	1486.
18	9.01	32.647	18	25.300	268.6	9.01	268.1	0.50	0.05	6.93	1484.
28	7.99	32.651	28	25.457	253.9	7.99	253.2	0.76	0.11	7.09	1480.
46	7.12	32.675	46	25.598	240.7	7.12	239.8	1.21	0.28	7.19	1477.
69	6.23	32.716	69	25.746	226.8	6.22	225.7	1.75	0.60	7.15	1474.
92	5.24	32.734	91	25.879	214.2	5.23	213.1	2.24	1.00	7.20	1470.
115	4.69	32.750	114	25.953	207.3	4.68	206.0	2.72	1.51	7.20	1469.
138	4.46	32.856	137	26.061	197.2	4.45	195.8	3.19	2.11	6.95	1468.
160	4.48	33.106	159	26.257	178.8	4.47	177.1	3.61	2.75	6.25	1469.
183	4.88	33.553	182	26.567	149.8	4.87	147.6	3.99	3.42	4.83	1472.
229	4.53	33.795	227	26.798	128.3	4.51	125.7	4.61	4.71	3.33	1471.
275	4.21	33.833	273	26.862	122.5	4.19	119.7	5.18	6.19	2.48	1471.
369	3.94	33.951	366	26.983	111.6	3.91	108.1	6.28	9.78	1.51	1471.
466	3.81	34.032	462	27.061	104.9	3.78	100.7	7.33	14.24	1.31	1472.
567	3.63	34.126	562	27.153	96.8	3.59	91.8	8.34	19.59	1.28	1473.
761	3.29	34.250	754	27.285	85.3	3.24	79.2	10.10	31.48	1.04	1475.
953	2.97	34.333	944	27.380	77.0	2.90	70.1	11.66	45.07	0.78	1477.
1145	2.70	34.404	1134	27.461	70.0	2.62	62.3	13.07	60.16	0.85	1479.
1433	2.37	34.482	1418	27.551	62.1	2.27	53.7	14.96	85.01	0.85	1483.
1911	2.01	34.565	1888	27.647	53.9	1.83	44.5	17.70	131.71	1.53	1489.
2384	1.80	34.612	2353	27.701	49.6	1.63	39.1	20.13	185.07	2.03	1496.
2851	1.64	34.642	2811	27.737	46.9	1.43	35.4	22.38	244.98	2.52	1504.
3310	1.54	34.657	3260	27.756	45.8	1.29	33.4	24.50	311.53	3.00	1511.
3760	1.52	34.672	3699	27.770	45.6	1.22	31.8	26.55	385.49	3.33	1519.
3849	1.51	34.673	3786	27.771	45.6	1.20	31.6	26.95	401.26	3.24	1520.
3928	1.51	34.670	3863	27.769	46.1	1.19	31.7	27.32	415.67	3.25	1521.
3937	1.51	34.672	3872	27.771	45.9	1.19	31.6	27.36	417.37	3.29	1522.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6.00
8.00
10.00
SALINITY, 0/00
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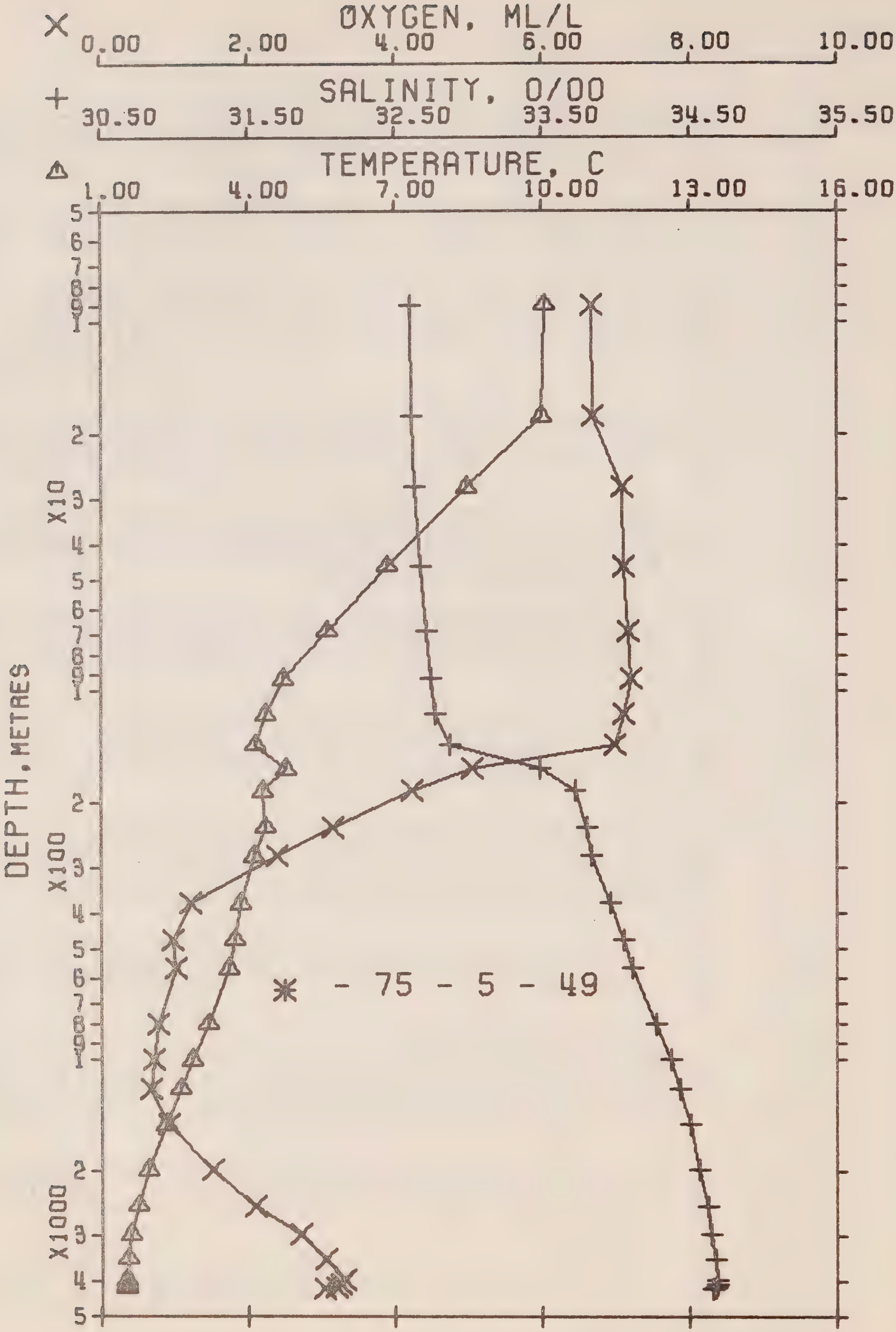
32.50
33.50
34.50
35.50
TEMPERATURE, C
1.00
4.00
7.00
10.00
13.00
16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 5 - 42

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 5- 42 DATE 14/ 7/75
POSITION 50- 0.0 N. 145- 0.0 W GMT 17.9
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	10.32	32.610	0	25.058	291.4	10.32	291.2	0.0	0.0	6.62	1483.
10	10.26	32.612	10	25.070	290.5	10.26	290.1	0.29	0.02	6.78	1483.
20	8.44	32.648	20	25.388	260.3	8.44	259.8	0.57	0.06	7.13	1482.
30	7.45	32.566	30	25.545	245.5	7.45	244.8	0.82	0.12	7.23	1478.
51	6.72	32.685	51	25.659	234.9	6.72	233.9	1.33	0.33	7.21	1476.
76	5.61	32.725	76	25.829	218.9	5.60	217.8	1.90	0.70	7.18	1472.
102	4.67	32.760	101	25.963	206.3	4.66	205.1	2.43	1.19	7.20	1468.
126	4.27	32.816	125	26.049	198.1	4.26	196.9	2.92	1.76	7.23	1467.
151	4.32	33.200	150	26.348	170.0	4.31	168.4	3.39	2.42	5.87	1468.
176	4.80	33.728	175	26.715	135.7	4.79	133.6	3.77	3.05	4.09	1471.
201	4.66	33.789	200	26.779	129.9	4.64	127.5	4.10	3.69	3.63	1471.
251	4.30	33.847	249	26.863	122.1	4.23	119.5	4.72	5.12		1471.
301	4.06	33.891	299	26.923	116.7	4.04	113.8	5.33	6.81	1.82	1471.
401	3.83	34.011	398	27.042	106.2	3.80	102.5	6.44	10.79	1.08	1471.
503	3.70	34.110	499	27.134	98.3	3.66	93.7	7.48	15.58	0.93	1473.
608	3.53	34.157	603	27.196	93.0	3.49	87.7	8.48	21.26	0.85	1474.
803	3.21	34.275	796	27.312	83.0	3.15	76.6	10.20	33.62	0.80	1476.
1003	2.87	34.380	993	27.427	72.7	2.80	65.7	11.74	47.83	0.60	1478.
1208	2.61	34.434	1196	27.493	67.1	2.53	59.4	13.17	63.96	0.65	1480.
1523	2.31	34.511	1506	27.580	59.6	2.21	51.0	15.16	91.55	0.86	1484.
2055	1.96	34.576	2030	27.660	53.0	1.82	43.2	18.13	145.81	1.43	1491.
2581	1.73	34.632	2546	27.722	48.0	1.55	37.0	20.77	208.17	2.08	1499.
3079	1.59	34.656	3034	27.752	45.9	1.36	33.9	23.09	275.35	2.64	1507.
3529	1.52	34.670	3474	27.768	45.1	1.25	32.1	25.13	344.01	3.05	1515.
3912	1.51	34.666	3847	27.766	46.3	1.20	32.1	26.90	410.94	3.20	1521.
3978	1.52	34.680	3912	27.776	45.7	1.20	31.0	27.20	423.25	3.23	1522.
4035	1.52	34.674	3967	27.771	46.2	1.19	31.5	27.46	433.77	3.16	1523.
4041	1.52	34.670	3973	27.768	46.5	1.19	31.7	27.49	434.94	3.19	1523.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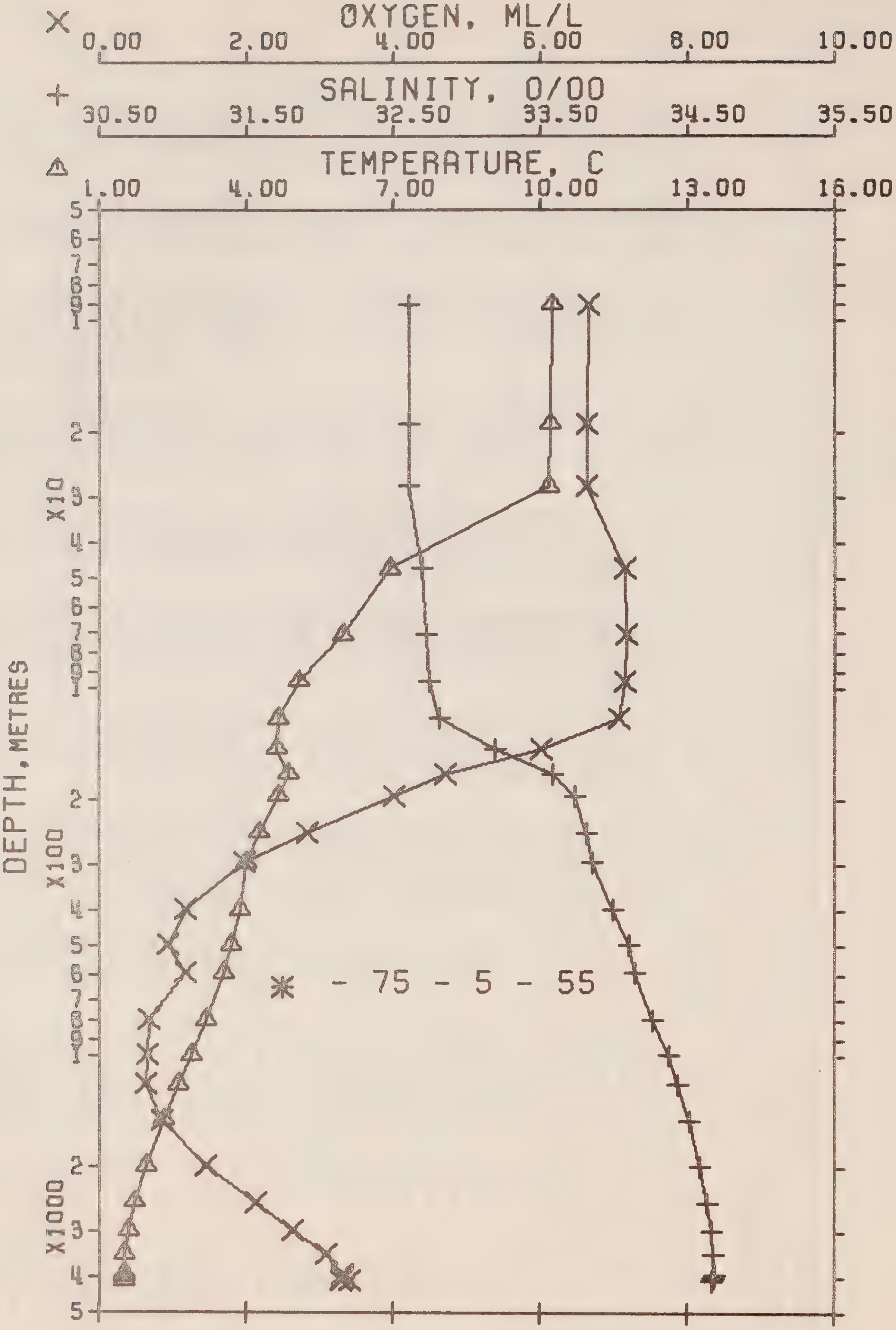
31.50
32.50
33.50
34.50
35.50
TEMPERATURE, C
1.00
4.00
7.00
10.00
13.00
16.00
DEPTH, METRES
X10
X100
X1000
- 75 - 5 - 49

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 5- 49 DATE 21/ 7/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 18.0
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	10.05	32.612	0	25.105	286.9	10.05	286.7	0.0	0.0	6.63	1488.
9	10.05	32.615	9	25.107	286.9	10.05	286.4	0.26	0.01	6.69	1488.
18	10.01	32.621	18	25.119	286.0	10.01	285.4	0.52	0.05	6.70	1488.
28	8.46	32.644	28	25.382	261.0	8.46	260.3	0.80	0.11	7.10	1482.
46	6.85	32.681	46	25.639	236.7	6.85	235.9	1.24	0.28	7.13	1476.
69	5.62	32.717	69	25.821	219.5	5.61	218.5	1.77	0.59	7.17	1472.
94	4.72	32.752	93	25.951	207.3	4.71	206.2	2.28	1.02	7.21	1468.
117	4.37	32.778	116	26.008	202.0	4.36	200.8	2.76	1.53	7.12	1467.
141	4.15	32.883	140	26.114	192.0	4.14	190.7	3.24	2.16	7.00	1467.
164	4.79	33.486	163	26.524	153.7	4.78	151.7	3.64	2.78	5.07	1471.
188	4.30	33.726	187	26.767	130.7	4.29	128.6	3.98	3.39	4.23	1469.
236	4.36	33.811	234	26.828	125.4	4.34	122.8	4.57	4.68	3.17	1471.
283	4.12	33.845	281	26.881	120.7	4.10	117.8	5.15	6.22	2.40	1470.
379	3.85	33.971	376	27.008	109.2	3.82	105.6	6.25	9.93	1.21	1471.
475	3.73	34.064	471	27.094	101.8	3.70	97.5	7.26	14.31	0.99	1472.
570	3.60	34.116	565	27.148	97.2	3.56	92.3	8.20	19.34	1.02	1473.
804	3.19	34.285	797	27.322	81.9	3.13	75.7	10.31	34.02	0.78	1476.
1008	2.85	34.376	998	27.425	72.9	2.78	65.8	11.87	48.48	0.72	1478.
1210	2.62	34.436	1198	27.494	67.0	2.54	59.3	13.28	64.45	0.69	1480.
1515	2.31	34.505	1498	27.576	60.0	2.21	51.4	15.21	91.15	0.91	1484.
2022	1.96	34.574	1997	27.658	53.1	1.82	43.4	18.05	142.39	1.53	1491.
2529	1.74	34.626	2495	27.717	48.3	1.56	37.5	20.60	201.67	2.11	1499.
3037	1.60	34.655	2993	27.750	46.0	1.37	34.1	22.99	269.38	2.72	1507.
3545	1.53	34.682	3489	27.777	44.5	1.26	31.3	25.27	346.03	3.07	1515.
4053	1.52	34.694	3985	27.787	44.3	1.19	29.9	27.53	433.20	3.32	1524.
4156	1.52	34.690	4085	27.784	45.4	1.18	30.1	27.99	452.57	3.27	1525.
4247	1.52	34.682	4174	27.778	46.2	1.17	30.6	28.39	469.86	3.20	1527.
4258	1.52	34.658	4184	27.759	47.9	1.17	32.5	28.44	471.95	3.04	1527.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SALINITY, 0/00
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TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
✳ - 75 - 5 - 55

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 5- 55 DATE 28/ 7/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 18.5
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	10.24	32.605	0	25.068	290.5	10.24	290.3	0.0	0.0	6.59	1488.
9	10.24	32.606	9	25.068	290.6	10.24	290.2	0.26	0.01	6.65	1488.
19	10.22	32.610	19	25.075	290.2	10.22	289.5	0.56	0.05	6.64	1488.
28	10.18	32.610	28	25.082	289.7	10.18	288.9	0.82	0.12	6.65	1488.
47	6.95	32.696	47	25.637	236.9	6.95	236.0	1.33	0.31	7.17	1477.
71	5.98	32.726	71	25.785	223.1	5.97	222.0	1.87	0.64	7.18	1473.
96	5.09	32.753	95	25.911	211.2	5.08	210.0	2.40	1.09	7.15	1470.
121	4.66	32.825	120	26.015	201.4	4.65	200.1	2.92	1.67	7.07	1469.
146	4.63	33.199	145	26.315	173.3	4.62	171.6	3.39	2.31	6.01	1469.
171	4.88	33.586	170	26.593	147.2	4.87	145.2	3.79	2.96	4.72	1471.
196	4.67	33.736	195	26.736	133.9	4.66	131.7	4.15	3.62	4.01	1471.
248	4.26	33.824	246	26.849	123.4	4.24	120.8	4.80	5.10	2.84	1470.
298	4.00	33.861	296	26.906	118.4	3.98	115.5	5.41	6.79	1.99	1470.
401	3.88	33.997	398	27.026	107.8	3.85	104.0	6.57	10.93	1.18	1472.
501	3.71	34.107	497	27.130	98.5	3.67	94.1	7.60	15.65	0.95	1473.
597	3.56	34.146	592	27.176	94.8	3.52	89.6	8.52	20.84	1.17	1474.
803	3.20	34.273	796	27.311	82.9	3.14	76.7	10.36	33.93	0.68	1476.
1001	2.90	34.334	991	27.427	72.8	2.83	65.6	11.89	47.99	0.65	1478.
1201	2.63	34.442	1189	27.497	66.6	2.55	58.9	13.28	63.62	0.64	1480.
1507	2.31	34.521	1490	27.588	58.8	2.21	50.2	15.19	89.92	0.86	1484.
2021	1.97	34.594	1996	27.673	51.7	1.83	41.9	18.00	140.49	1.45	1491.
2535	1.73	34.638	2501	27.727	47.4	1.55	36.6	20.53	199.34	2.14	1499.
3041	1.60	34.666	2997	27.759	45.2	1.37	33.3	22.87	265.71	2.64	1507.
3528	1.52	34.684	3473	27.779	44.2	1.25	31.0	25.03	338.28	3.09	1515.
3990	1.52	34.693	3923	27.787	44.8	1.20	30.0	27.05	415.89	3.31	1523.
4077	1.52	34.684	4008	27.779	45.7	1.19	30.6	27.45	432.08	3.32	1524.
4155	1.52	34.667	4084	27.766	47.0	1.18	31.9	27.82	447.38	3.30	1525.
4164	1.52	34.672	4093	27.770	46.7	1.18	31.5	27.86	449.22	3.41	1526.

Results of STP Observations
(P-75-5)

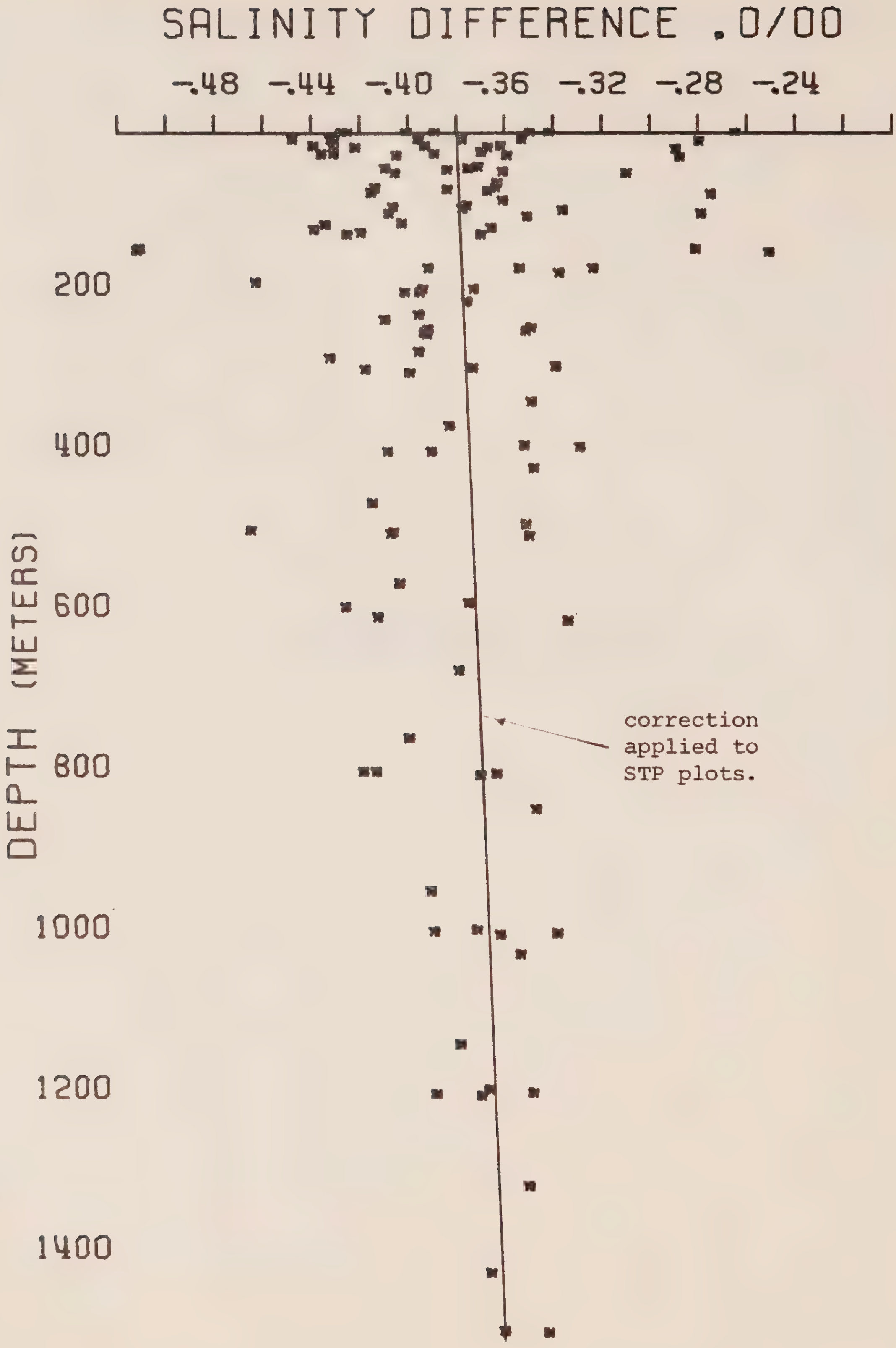


Figure 8. Salinity difference between hydro data and STP. P-75-5

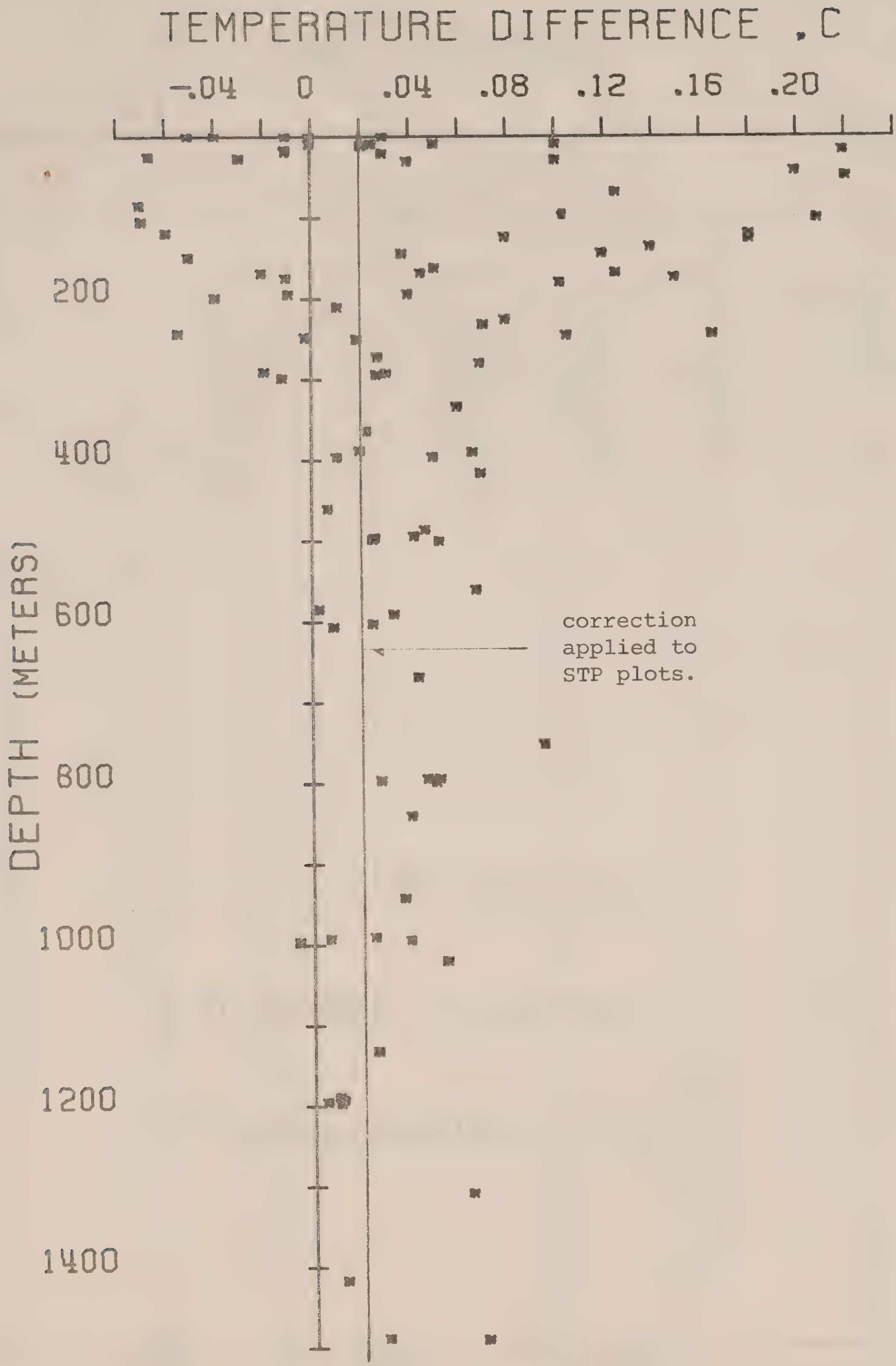
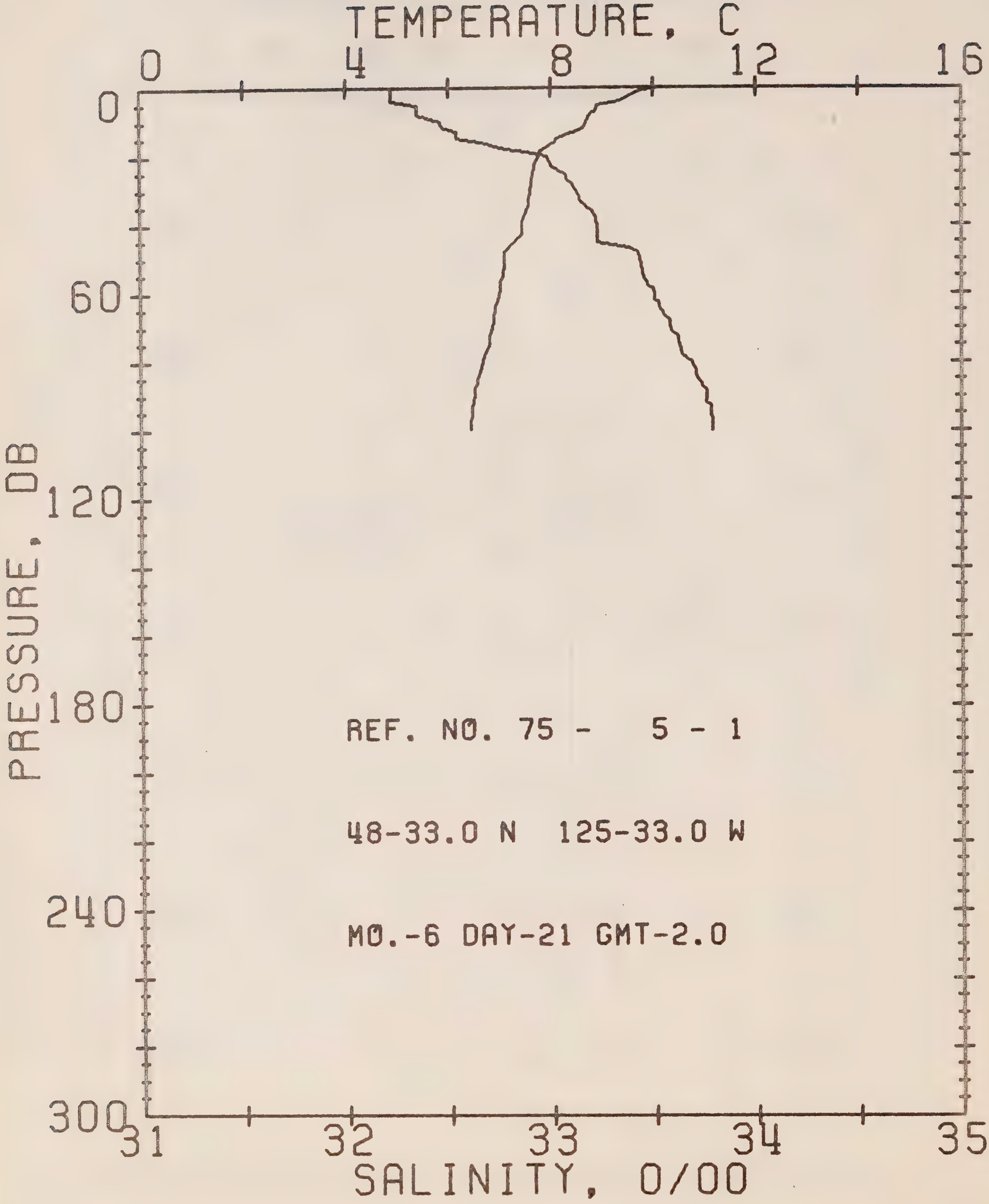


Figure 9. Temperature difference between hydro data and STP. P-75-5



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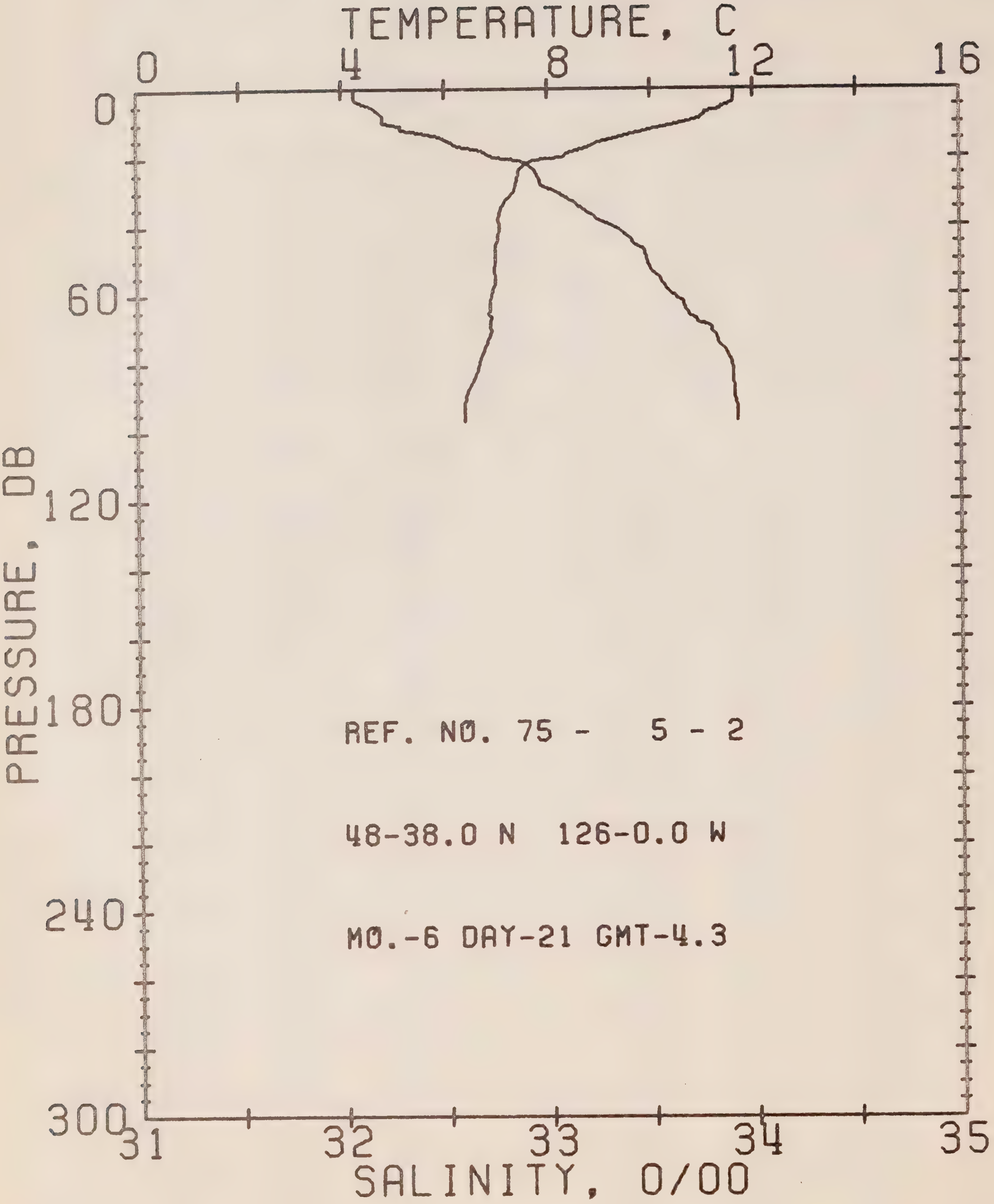
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 5 - 1
48-33.0 N 125-33.0 W
MO.-6 DAY-21 GMT-2.0
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 1 DATE 21/ 6/75
POSITION 48-33.0N, 125-33.0W GMT 2.0
RESULTS OF STP CAST 67 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.15	32.22	0	24.78	317.3	0.0	0.0	1487.
10	8.69	32.46	10	25.20	277.8	0.30	0.01	1482.
20	7.75	32.98	20	25.75	225.9	0.56	0.05	1480.
30	7.61	33.12	30	25.88	213.7	0.77	0.11	1479.
50	7.10	33.43	50	26.20	183.9	1.18	0.27	1478.
75	6.80	33.63	75	26.39	165.7	1.62	0.55	1478.
100	6.44	33.79	99	26.57	149.6	2.01	0.90	1477.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	10.15	32.22	49.	7.10	33.43
1.	9.79	32.22	52.	7.09	33.44
3.	9.50	32.22	54.	7.08	33.45
4.	9.35	32.22	55.	7.06	33.45
5.	8.90	32.35	57.	7.02	33.47
7.	8.87	32.35	58.	7.01	33.48
8.	8.77	32.35	59.	7.00	33.50
10.	8.69	32.46	61.	6.98	33.51
11.	8.67	32.46	62.	6.96	33.51
12.	8.65	32.48	63.	6.92	33.53
13.	8.52	32.54	64.	6.91	33.53
15.	8.14	32.54	65.	6.90	33.54
16.	8.09	32.66	66.	6.89	33.55
17.	8.00	32.71	67.	6.89	33.56
18.	7.86	32.78	68.	6.87	33.58
19.	7.78	32.88	70.	6.86	33.58
20.	7.75	32.98	71.	6.84	33.59
23.	7.68	33.00	73.	6.81	33.62
25.	7.66	33.07	74.	6.81	33.62
27.	7.62	33.08	75.	6.80	33.63
28.	7.62	33.10	78.	6.70	33.64
30.	7.61	33.12	80.	6.66	33.69
31.	7.59	33.13	83.	6.61	33.71
32.	7.57	33.14	84.	6.59	33.71
33.	7.56	33.14	85.	6.56	33.72
34.	7.56	33.16	86.	6.55	33.73
36.	7.51	33.20	88.	6.52	33.75
38.	7.47	33.22	89.	6.50	33.76
39.	7.45	33.22	92.	6.47	33.76
41.	7.44	33.23	93.	6.46	33.78
43.	7.44	33.23	94.	6.46	33.78
45.	7.29	33.23	99.	6.44	33.79
47.	7.16	33.39	100.	6.44	33.79
48.	7.10	33.42			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16
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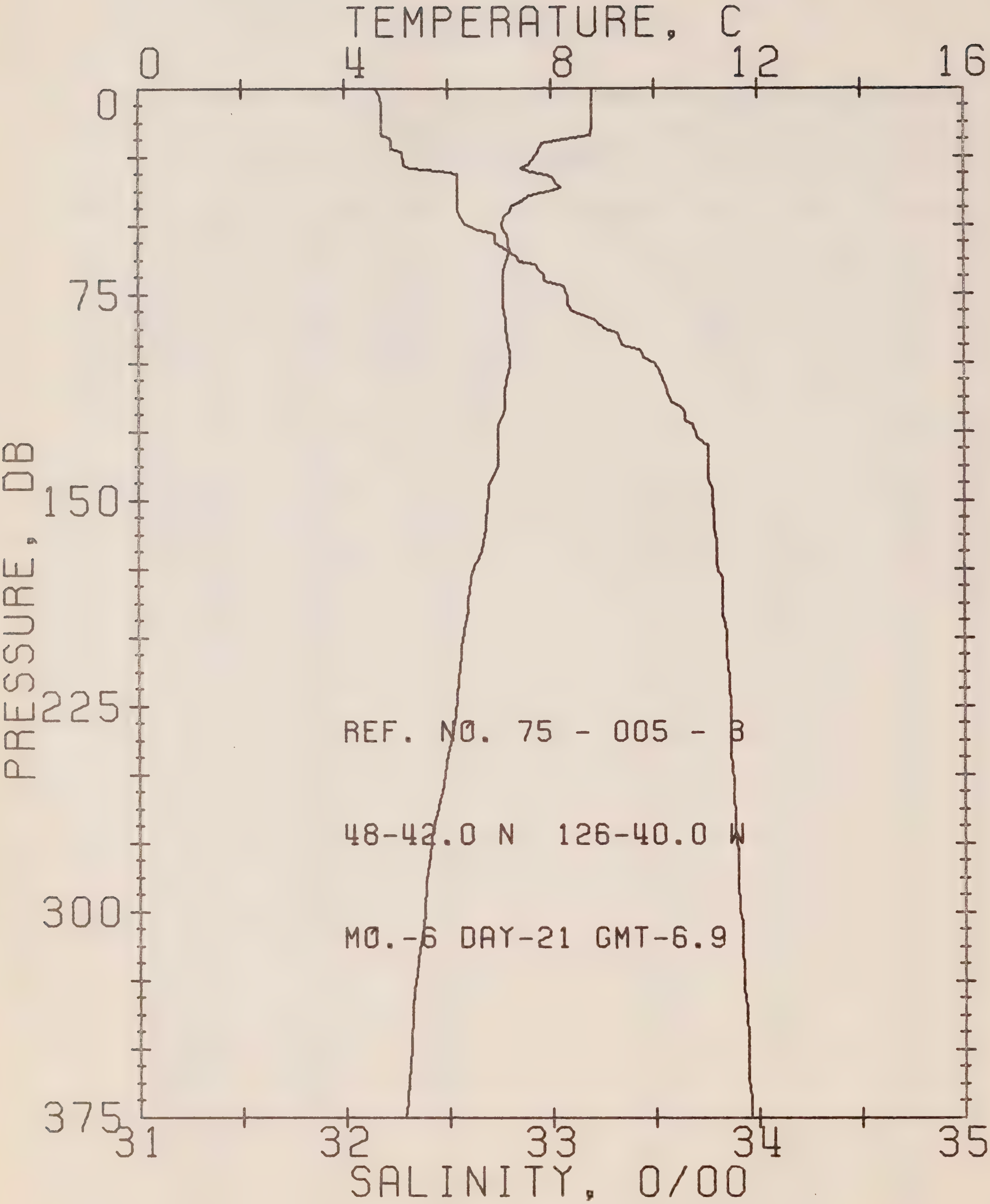
60
120
180
240
300
PRESSURE, DB
REF. NØ. 75 - 5 - 2
48-38.0 N 126-0.0 W
MØ.-6 DAY-21 GMT-4.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 2   DATE 21/ 6/75
POSITION 48-38.0N. 126- 0.0W   GMT 4.3
RESULTS OF STP CAST   67 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.63	32.06	0	24.40	353.7	0.0	0.0	1492.
10	10.64	32.20	10	24.68	327.2	0.34	0.02	1489.
20	8.33	32.74	20	25.48	251.9	0.63	0.06	1482.
30	7.36	33.05	30	25.86	215.6	0.86	0.12	1478.
50	6.98	33.48	50	26.25	178.5	1.24	0.27	1478.
75	6.80	33.84	75	26.56	149.7	1.66	0.54	1478.

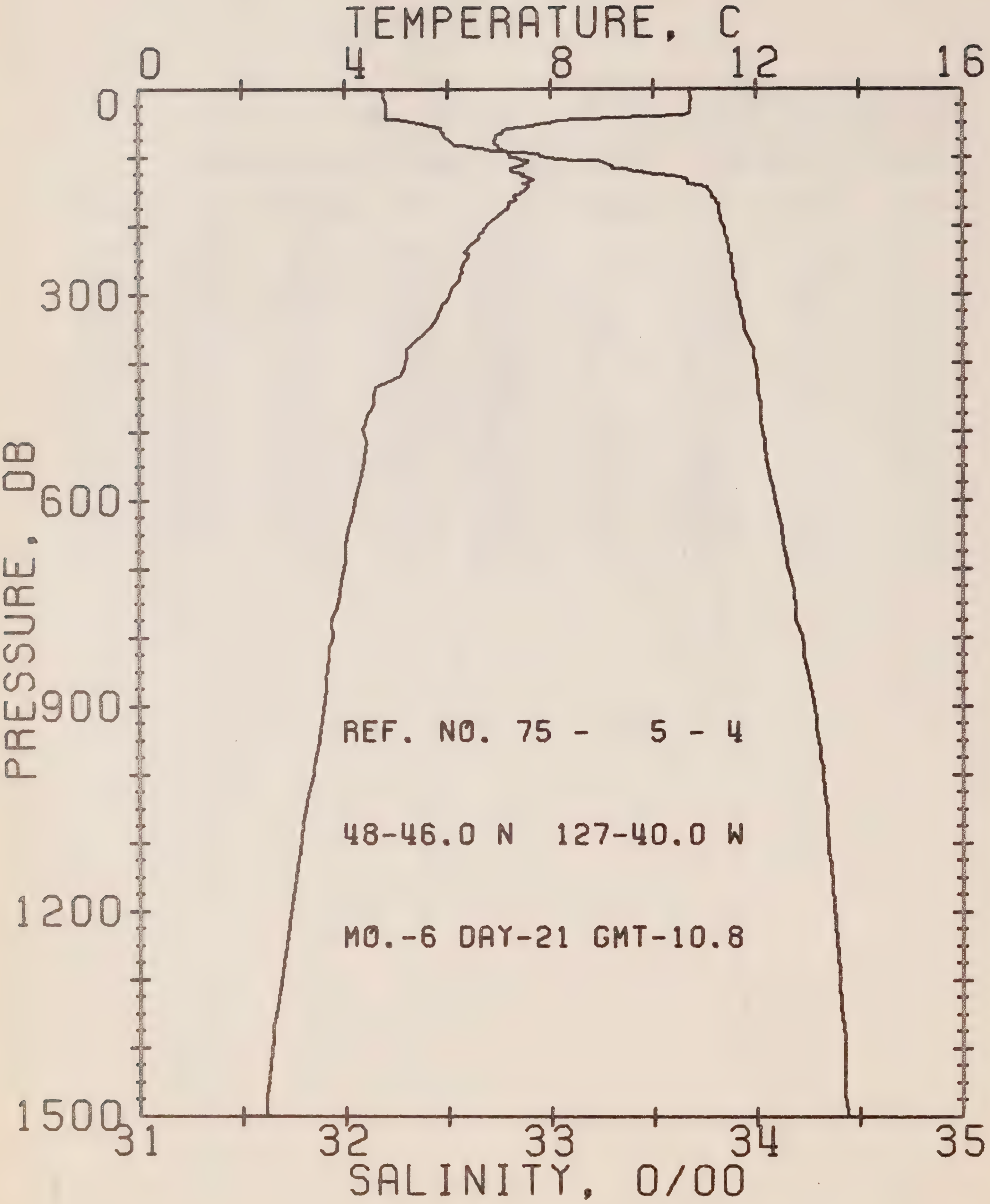
DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	11.63	32.06	45.	7.02	33.42
3.	11.63	32.06	46.	6.99	33.45
4.	11.63	32.09	47.	6.99	33.47
5.	11.42	32.15	51.	6.98	33.49
6.	11.39	32.16	53.	6.97	33.50
7.	11.09	32.18	54.	6.97	33.53
8.	11.04	32.20	55.	6.98	33.54
9.	10.98	32.20	57.	6.99	33.56
10.	10.64	32.20	59.	6.93	33.59
11.	10.39	32.29	61.	6.91	33.63
12.	10.01	32.29	62.	6.89	33.66
13.	9.79	32.38	63.	6.89	33.66
14.	9.43	32.48	64.	6.88	33.67
16.	8.92	32.54	65.	6.88	33.68
17.	8.85	32.57	66.	6.86	33.69
18.	8.59	32.68	67.	6.90	33.72
19.	8.40	32.70	68.	6.87	33.73
20.	8.33	32.74	69.	6.87	33.78
21.	7.73	32.86	70.	6.88	33.80
22.	7.58	32.91	71.	6.90	33.80
24.	7.44	32.94	72.	6.89	33.82
25.	7.43	32.95	74.	6.84	33.83
27.	7.41	32.96	76.	6.77	33.86
28.	7.39	32.97	79.	6.69	33.89
30.	7.36	33.05	82.	6.65	33.90
32.	7.22	33.10	85.	6.55	33.90
33.	7.18	33.13	86.	6.54	33.90
34.	7.14	33.15	87.	6.49	33.91
35.	7.09	33.17	89.	6.44	33.91
37.	7.06	33.22	90.	6.40	33.91
38.	7.05	33.24	93.	6.38	33.92
40.	7.08	33.32	96.	6.37	33.92
41.	7.07	33.35	97.	6.37	33.92
44.	7.03	33.41			



TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 8
48-42.0 N 126-40.0 W
MO.-6 DAY-21 GMT-6.9
31
32
33
34
35
SALINITY, 0/00

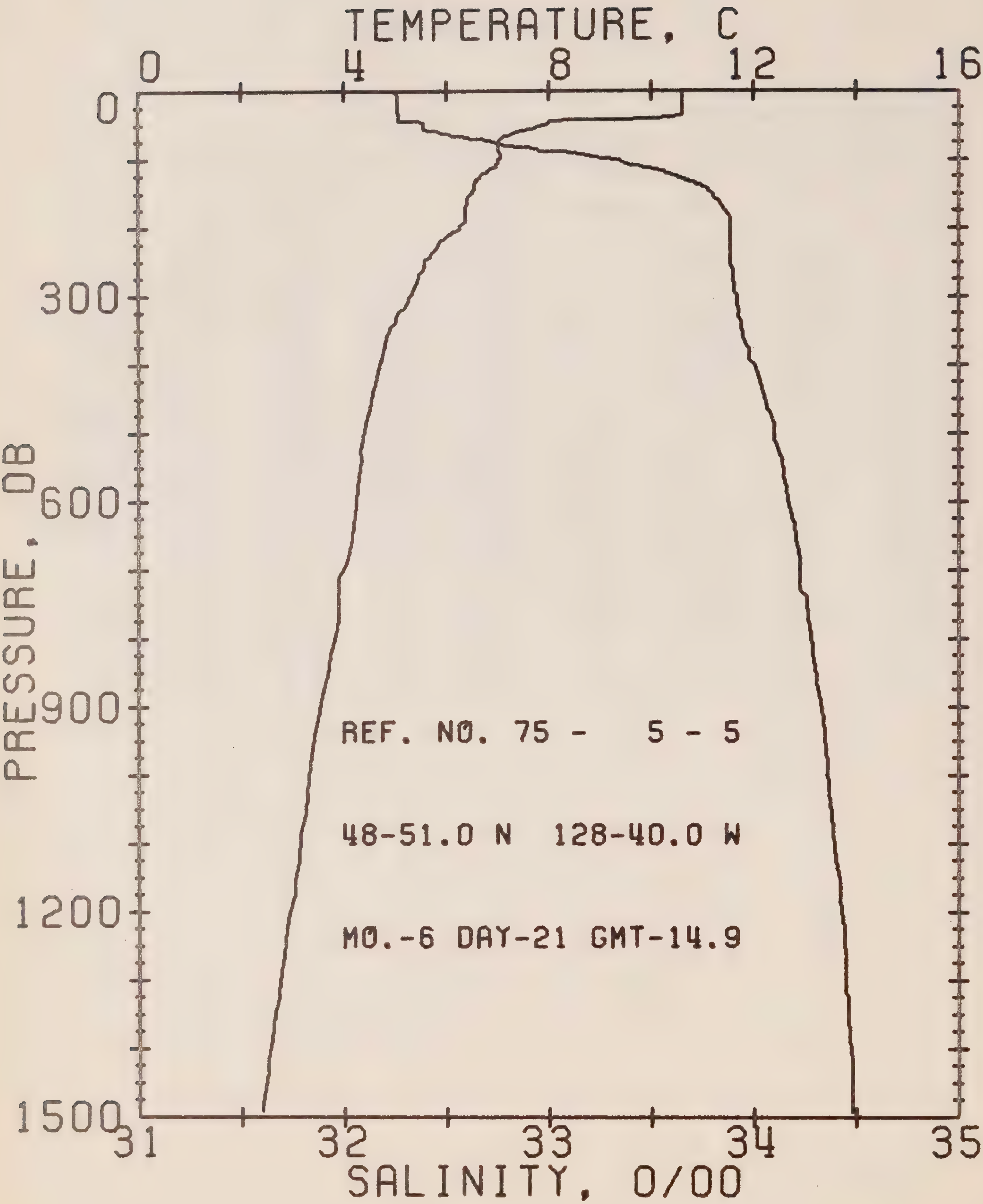
OFFSHORE OCEANOGRAPHY GROUP
REFFRENCE NO. 75- 5- 3 DATE 21/ 6/75
POSITION 48-42.0N, 126-40.0W GMT 7.5
RESULTS OF STP CAST 124 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.81	32.15	0	24.94	302.1	0.0	0.0	1482.
10	8.81	32.18	10	24.97	300.3	0.30	0.02	1483.
20	7.80	32.23	20	25.15	282.5	0.60	0.06	1479.
30	7.51	32.46	30	25.38	261.6	0.87	0.13	1478.
50	7.04	32.60	50	25.55	245.0	1.39	0.34	1477.
75	7.08	33.07	75	25.92	210.7	1.95	0.70	1478.
100	7.19	33.50	99	26.24	180.9	2.45	1.14	1479.
125	6.97	33.70	124	26.42	163.4	2.88	1.63	1479.
150	6.76	33.78	149	26.51	155.1	3.27	2.19	1479.
175	6.47	33.81	174	26.57	149.8	3.66	2.82	1478.
200	6.28	33.85	199	26.63	144.3	4.02	3.52	1478.
225	6.14	33.87	223	26.66	141.6	4.38	4.29	1478.
250	5.92	33.88	248	26.70	138.5	4.73	5.14	1477.
300	5.52	33.91	298	26.78	131.8	5.40	7.03	1477.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
300
600
900
1200
1500
REF. NO. 75 - 5 - 4
48-46.0 N 127-40.0 W
MO.-6 DAY-21 GMT-10.8
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 4 DATE 21/ 6/75
POSITION 48-46.0N, 127-40.0W GMT 10.8
RESULTS OF STP CAST 196 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.73	32.17	0	24.65	330.5	0.0	0.0	1489.
10	10.74	32.19	10	24.66	329.5	0.33	0.02	1490.
20	10.73	32.20	20	24.67	328.9	0.66	0.07	1490.
30	10.72	32.20	30	24.67	328.9	0.99	0.15	1490.
50	7.90	32.38	50	25.26	273.1	1.60	0.40	1480.
75	6.91	32.51	75	25.50	250.4	2.25	0.81	1477.
100	7.22	32.98	99	25.82	220.0	2.84	1.33	1479.
125	7.45	33.59	124	26.27	178.1	3.33	1.90	1481.
150	7.46	33.78	149	26.42	164.5	3.76	2.50	1482.
175	7.14	33.82	174	26.49	157.5	4.16	3.16	1481.
200	6.75	33.84	199	26.56	151.0	4.55	3.90	1480.
225	6.48	33.86	223	26.62	146.5	4.92	4.71	1479.
250	6.34	33.88	248	26.65	143.6	5.28	5.58	1479.
300	6.02	33.91	298	26.71	137.9	5.99	7.56	1479.
400	5.16	34.00	397	26.89	122.2	7.29	12.18	1477.
500	4.36	34.03	496	27.00	111.2	8.44	17.46	1475.
600	4.19	34.09	595	27.07	105.8	9.53	23.59	1476.
800	3.74	34.22	793	27.22	92.7	11.52	37.69	1478.
1000	3.37	34.32	991	27.33	82.6	13.27	53.72	1480.
1200	2.95	34.38	1188	27.42	75.0	14.84	71.29	1481.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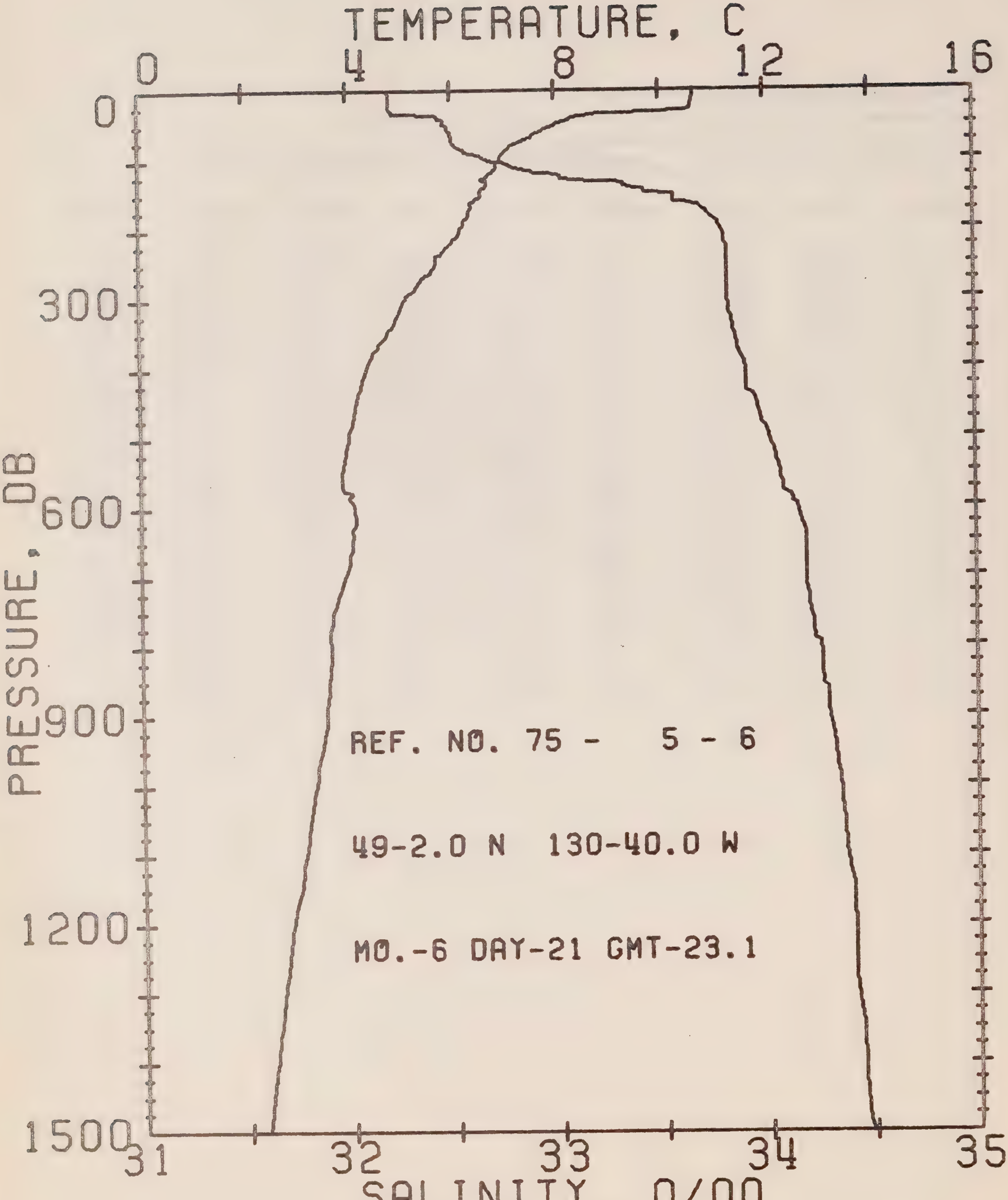
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 5
48-51.0 N 128-40.0 W
MO.-6 DAY-21 GMT-14.9
31
32
33
34
35
SALINITY, 0/00

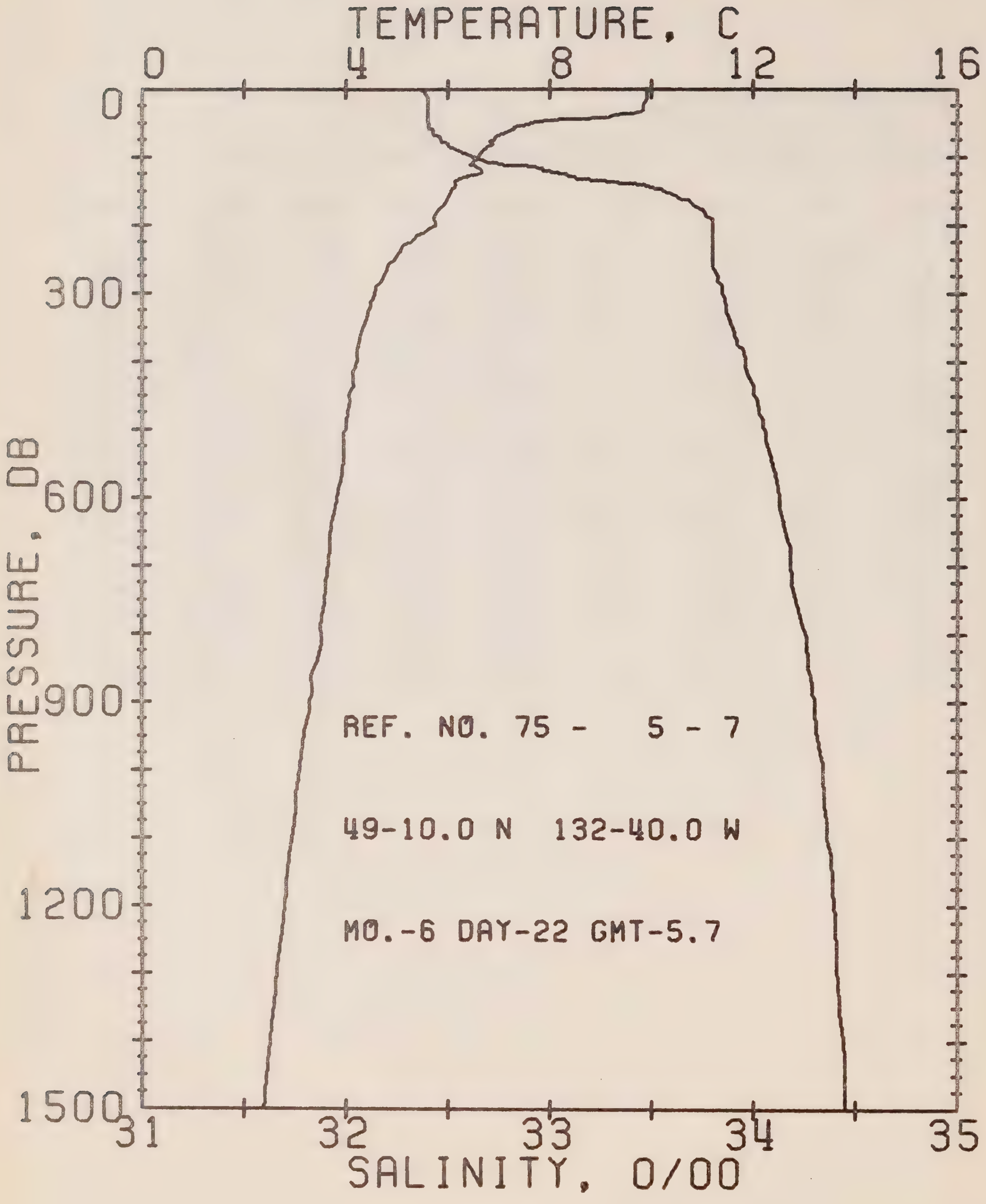
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 5 DATE 21/ 6/75
POSITION 48-51.0N, 128-40.0W GMT 14.9
RESULTS OF STP CAST 195 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.61	32.24	0	24.72	323.3	0.0	0.0	1489.
10	10.60	32.26	10	24.74	322.1	0.32	0.02	1489.
20	10.60	32.26	20	24.74	322.3	0.64	0.07	1489.
30	10.60	32.26	30	24.74	322.5	0.97	0.15	1490.
50	7.86	32.39	50	25.27	271.9	1.57	0.39	1480.
75	7.02	32.74	75	25.66	235.0	2.20	0.79	1477.
100	7.04	33.34	99	26.13	190.8	2.74	1.27	1479.
125	6.57	33.64	124	26.42	164.0	3.18	1.78	1478.
150	6.48	33.80	149	26.57	150.0	3.57	2.32	1478.
175	6.37	33.87	174	26.64	143.7	3.94	2.93	1478.
200	6.27	33.89	199	26.67	141.3	4.29	3.61	1478.
225	5.84	33.89	223	26.72	136.2	4.64	4.36	1477.
250	5.57	33.89	248	26.75	133.2	4.98	5.17	1476.
300	5.29	33.92	298	26.81	128.2	5.63	7.01	1476.
400	4.70	34.01	397	26.95	115.8	6.86	11.37	1475.
500	4.39	34.10	496	27.05	106.5	7.96	16.43	1475.
600	4.24	34.17	595	27.13	100.3	8.99	22.21	1477.
800	3.81	34.28	793	27.26	38.9	10.88	35.62	1478.
1000	3.31	34.36	991	27.37	78.7	12.55	50.37	1479.
1200	2.93	34.43	1188	27.46	70.9	14.05	67.72	1481.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 6
49-2.0 N 130-40.0 W
MO.-6 DAY-21 GMT-23.1
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 6 DATE 21/ 6/75
POSITION 49- 2.0N, 130-40.0W GMT 23.1
RESULTS OF STP CAST 231 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.66	32.20	0	24.68	327.0	0.0	0.0	1489.
10	10.65	32.21	10	24.69	326.6	0.33	0.02	1489.
20	10.62	32.21	20	24.70	326.3	0.65	0.07	1489.
30	10.47	32.22	30	24.73	323.3	0.98	0.15	1489.
50	8.02	32.47	50	25.31	268.1	1.54	0.38	1481.
75	7.33	32.51	75	25.44	256.1	2.19	0.79	1478.
100	6.94	32.68	99	25.62	239.0	2.81	1.34	1477.
125	6.69	33.03	124	25.93	209.7	3.38	1.99	1477.
150	6.58	33.57	149	26.37	168.4	3.85	2.65	1478.
175	6.35	33.72	174	26.52	154.4	4.26	3.32	1478.
200	6.18	33.79	199	26.60	147.3	4.63	4.04	1477.
225	5.95	33.82	223	26.65	143.1	5.00	4.83	1477.
250	5.69	33.82	248	26.68	140.0	5.35	5.68	1476.
300	5.11	33.82	298	26.75	133.6	6.03	7.60	1475.
400	4.35	33.91	397	26.91	119.6	7.30	12.12	1473.
500	4.00	34.02	496	27.03	108.5	8.45	17.36	1474.
600	4.11	34.15	595	27.12	100.5	9.49	23.20	1476.
800	3.63	34.25	793	27.25	89.1	11.40	36.77	1477.
1000	3.31	34.34	991	27.36	80.2	13.10	52.35	1479.
1200	2.83	34.41	1188	27.45	71.3	14.62	69.34	1481.


TEMPERATURE, C
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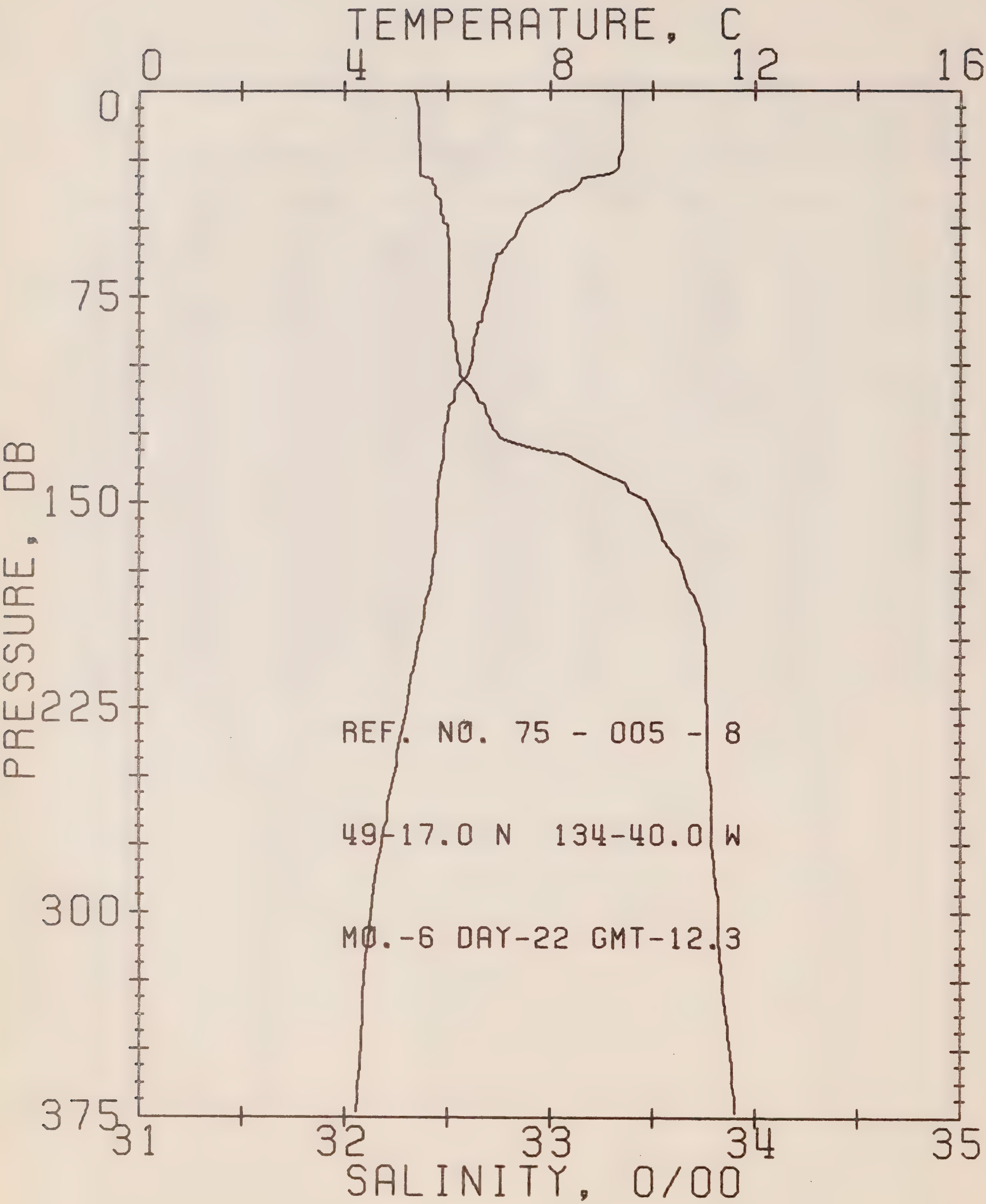
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 7
49-10.0 N 132-40.0 W
MO.-6 DAY-22 GMT-5.7
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 7 DATE 22/ 6/75
POSITION 49-10.0N, 132-40.0W GMT 5.7
RESULTS OF STP CAST 196 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL.	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.91	32.37	0	24.94	302.4	0.0	0.0	1487.
10	9.92	32.40	10	24.96	301.0	0.30	0.02	1487.
20	9.86	32.40	20	24.97	300.0	0.60	0.06	1487.
30	9.84	32.40	30	24.98	299.8	0.90	0.14	1487.
50	7.66	32.40	50	25.31	268.4	1.48	0.37	1479.
75	6.89	32.47	75	25.47	253.6	2.12	0.78	1476.
100	6.60	32.62	99	25.62	238.8	2.74	1.33	1476.
125	6.53	33.08	124	25.99	203.9	3.30	1.97	1477.
150	6.05	33.56	149	26.43	162.6	3.75	2.60	1476.
175	5.84	33.75	174	26.61	146.1	4.13	3.23	1476.
200	5.74	33.80	199	26.66	141.4	4.49	3.91	1476.
225	5.25	33.80	223	26.72	135.9	4.83	4.66	1474.
250	4.94	33.80	248	26.76	132.7	5.17	5.47	1473.
300	4.56	33.85	298	26.84	125.2	5.81	7.28	1473.
400	4.20	33.96	397	26.96	113.9	7.01	11.53	1473.
500	3.98	34.06	496	27.06	105.2	8.10	16.54	1474.
600	3.81	34.13	595	27.14	98.8	9.12	22.26	1475.
800	3.51	34.25	793	27.27	87.8	10.99	35.57	1477.
1000	3.08	34.34	991	27.38	78.0	12.65	50.74	1478.
1200	2.79	34.40	1188	27.45	71.9	14.15	67.52	1481.


TEMPERATURE, C
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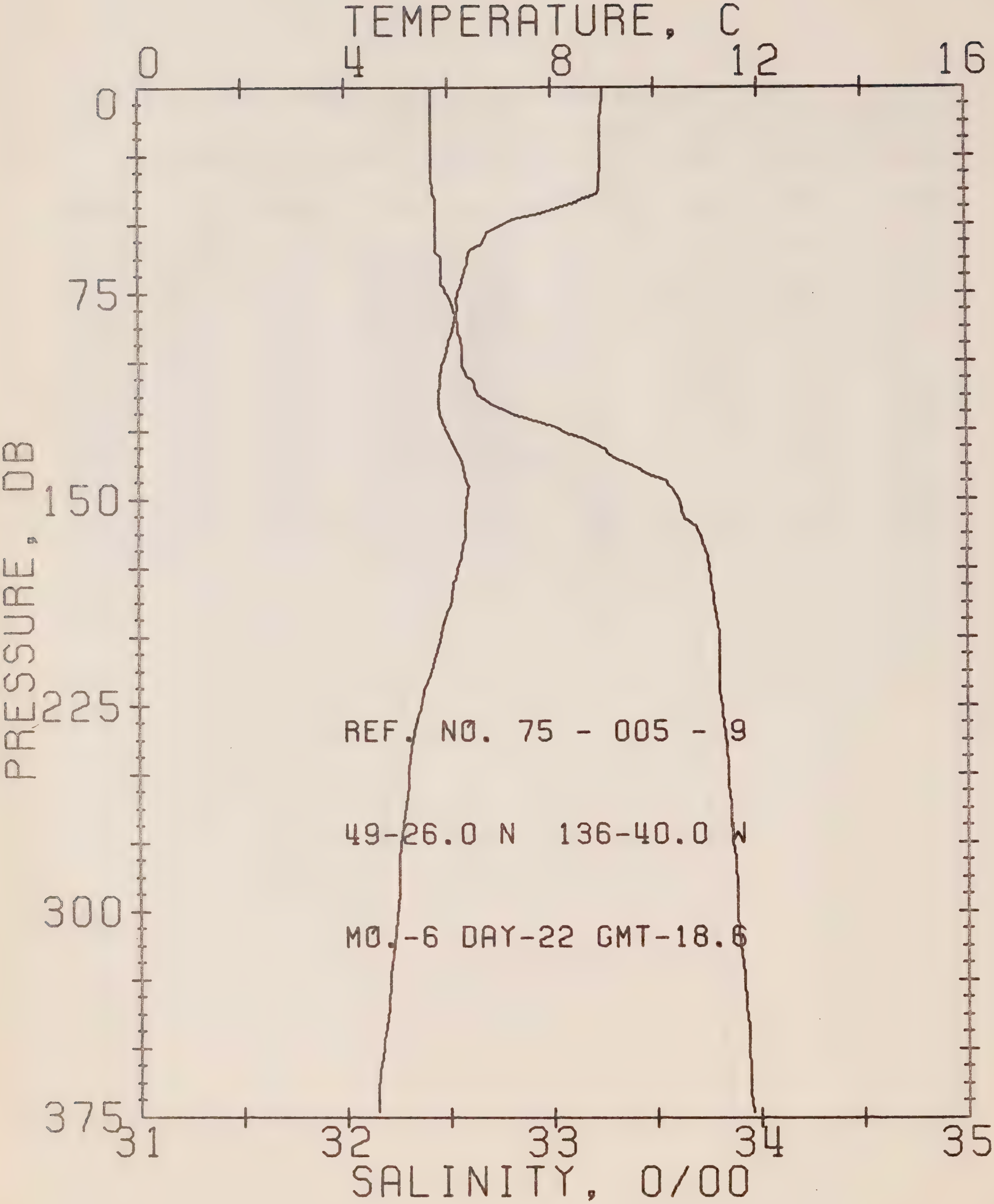
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 8
49-17.0 N 134-40.0 W
MO.-6 DAY-22 GMT-12.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 8 DATE 22/ 6/75
POSITION 49-17.0N, 139-40.0W GMT 12.3
RESULTS OF STP CAST 134 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	9.42	32.34	0	25.00	297.1	0.0	0.0	1485.
10	9.42	32.36	10	25.01	296.0	0.30	0.02	1485.
20	9.41	32.37	20	25.02	295.4	0.59	0.06	1485.
30	9.22	32.37	30	25.05	292.6	0.89	0.14	1485.
50	7.37	32.50	50	25.43	257.0	1.43	0.35	1478.
75	6.78	32.51	75	25.51	249.0	2.05	0.75	1476.
100	6.44	32.55	99	25.59	241.7	2.67	1.30	1475.
125	5.93	32.74	124	25.80	222.0	3.25	1.96	1474.
150	5.79	33.47	149	26.39	166.3	3.72	2.63	1475.
175	5.70	33.64	174	26.54	152.2	4.12	3.29	1475.
200	5.43	33.75	199	26.66	141.4	4.49	3.99	1474.
225	5.21	33.77	223	26.70	137.9	4.84	4.74	1474.
250	4.95	33.78	248	26.74	134.6	5.18	5.57	1473.
300	4.51	33.82	298	26.82	126.9	5.83	7.39	1472.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4
8
12
16
PRESSURE, DB
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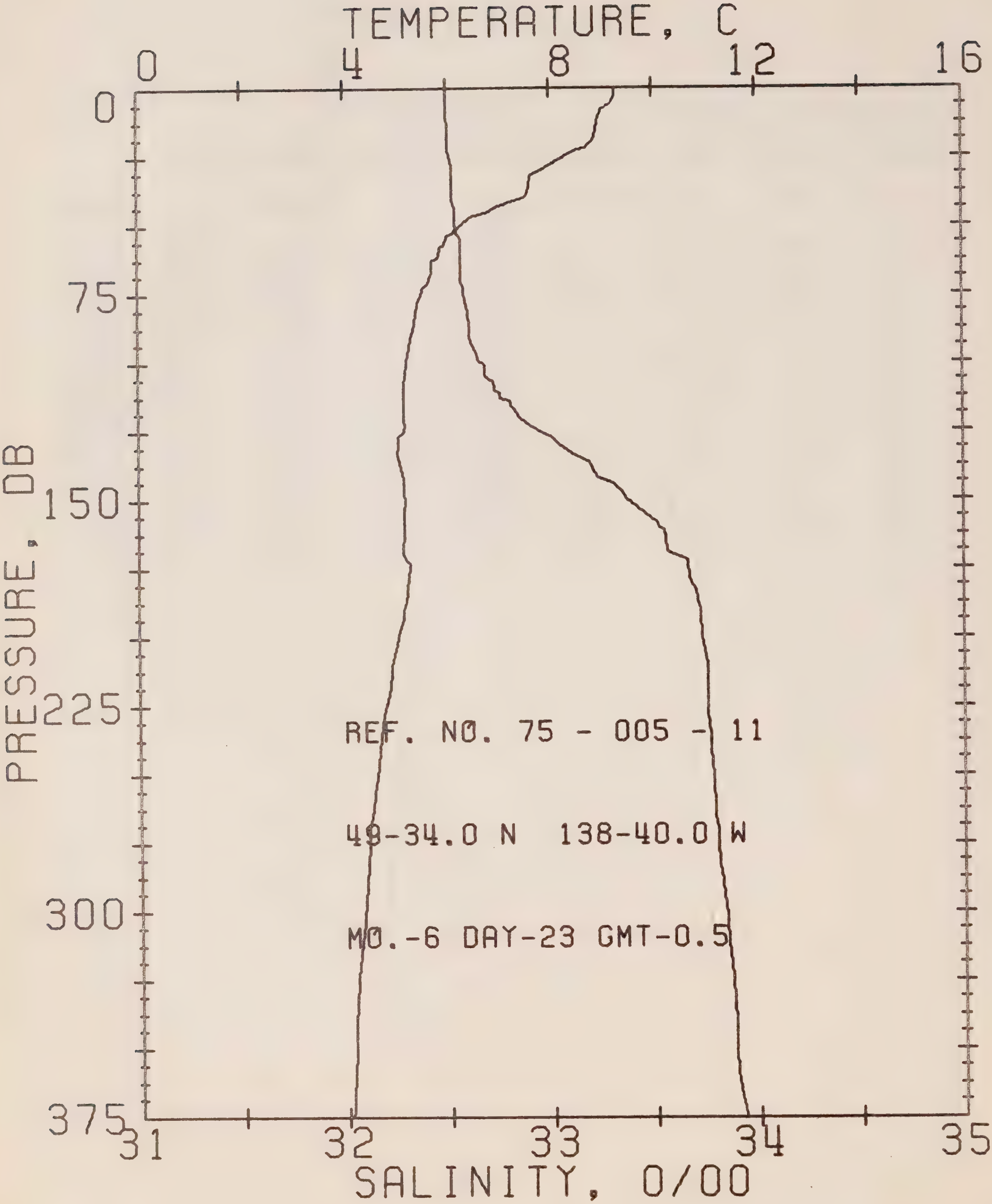
75
150
225
300
375
REF. NO. 75 - 005 - 9
49-26.0 N 136-40.0 W
MO.-6 DAY-22 GMT-18.6
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 9 DATE 22/ 6/75
POSITION 49-26.0N, 136-40.0W GMT 18.6
RESULTS OF STP CAST 112 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.00	32.42	0	25.12	284.8	0.0	0.0	1483.
10	8.98	32.42	10	25.13	284.9	0.28	0.01	1483.
20	8.97	32.42	20	25.13	285.0	0.57	0.06	1484.
30	8.95	32.42	30	25.13	284.8	0.85	0.13	1484.
50	7.06	32.44	50	25.42	257.5	1.41	0.36	1477.
75	6.18	32.49	75	25.57	243.2	2.03	0.75	1474.
100	5.90	32.57	99	25.67	234.1	2.62	1.28	1473.
125	5.97	33.05	124	26.04	199.3	3.18	1.92	1474.
150	6.36	33.61	149	26.44	162.4	3.63	2.54	1477.
175	6.17	33.76	174	26.58	149.4	4.02	3.18	1477.
200	5.82	33.81	199	26.66	141.7	4.38	3.88	1476.
225	5.44	33.82	223	26.71	136.8	4.73	4.63	1475.
250	5.20	33.85	248	26.77	131.9	5.06	5.44	1474.
300	4.96	33.89	298	26.82	126.7	5.71	7.25	1474.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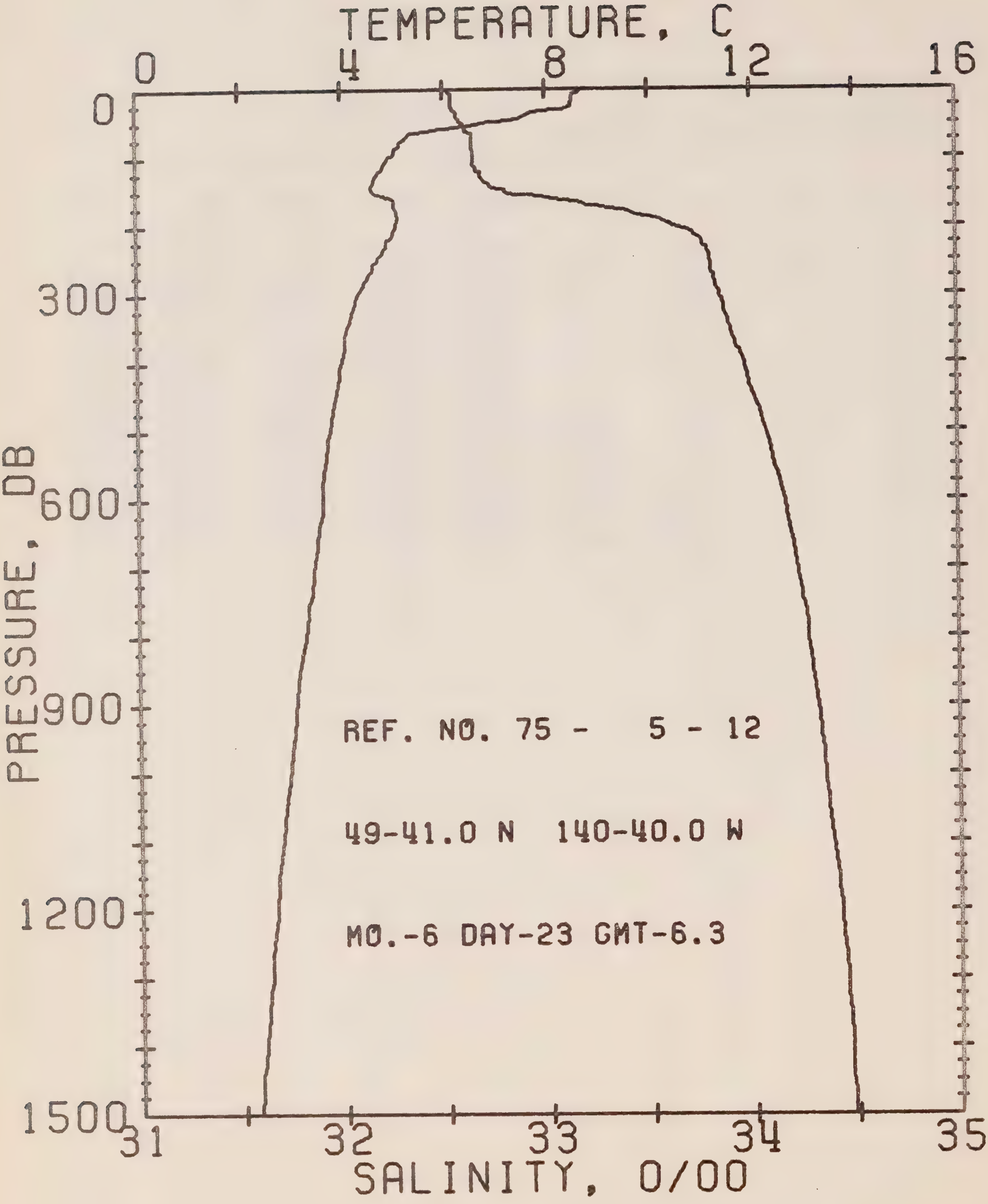
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 11
49-34.0 N 138-40.0 W
MO.-6 DAY-23 GMT-0.5
31
32
33
34
35
SALINITY, 0/00

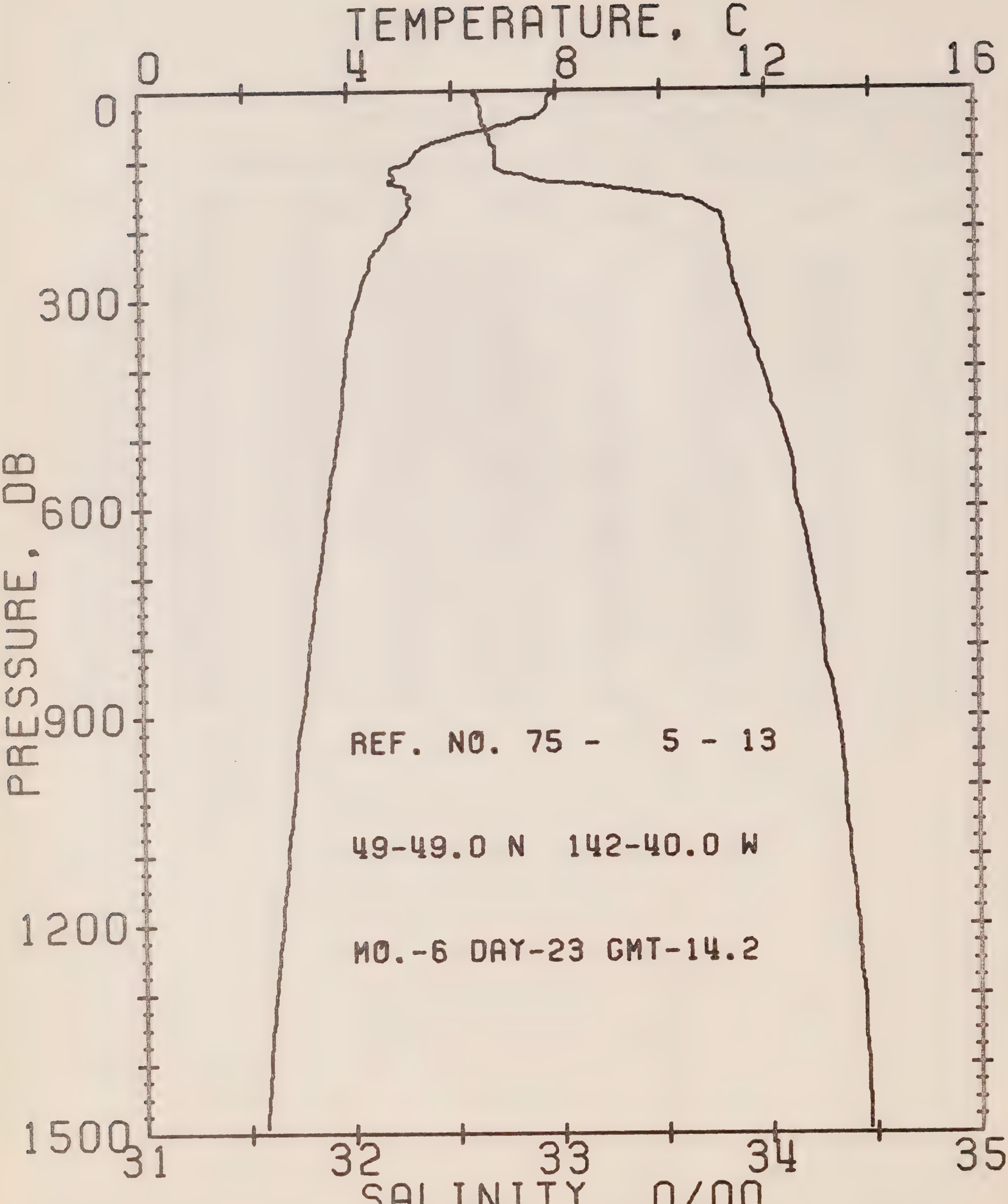
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 11   DATE 23/ 6/75
POSITION 49-34.0N, 138-40.0W   GMT 0.5
RESULTS OF STP CAST   114 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.27	32.50	0	25.14	282.9	0.0	0.0	1484.
10	8.97	32.50	10	25.19	278.8	0.28	0.01	1484.
20	8.80	32.51	20	25.23	275.8	0.56	0.06	1483.
30	7.82	32.53	30	25.39	260.6	0.83	0.12	1480.
50	6.27	32.54	50	25.60	240.2	1.33	0.33	1474.
75	5.49	32.58	75	25.73	228.4	1.91	0.70	1471.
100	5.20	32.66	99	25.83	219.0	2.47	1.20	1470.
125	5.16	32.94	124	26.05	198.2	3.00	1.80	1471.
150	5.17	33.37	149	26.39	166.4	3.45	2.43	1472.
175	5.23	33.66	174	26.61	145.4	3.84	3.07	1473.
200	5.00	33.73	199	26.69	138.1	4.19	3.74	1473.
225	4.78	33.75	223	26.73	134.3	4.53	4.48	1472.
250	4.58	33.78	248	26.78	130.3	4.86	5.28	1472.
300	4.33	33.84	298	26.85	123.7	5.49	7.06	1472.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 12
49-41.0 N 140-40.0 W
MO.-6 DAY-23 GMT-6.3
31
32
33
34
35
SALINITY, 0/00

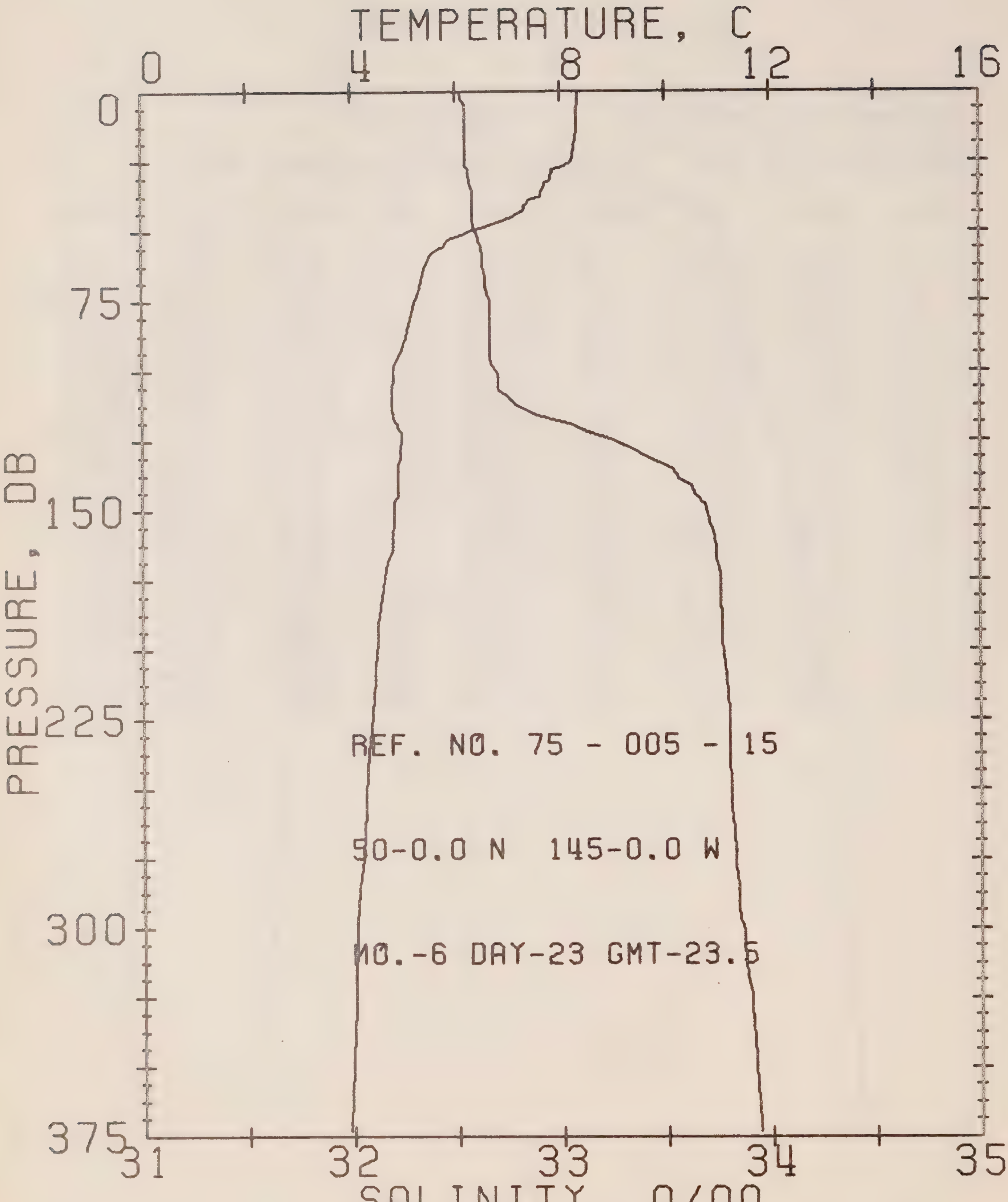
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 12 DATE 23/ 6/75
POSITION 49-41.0N, 140-40.0W GMT 6.3
RESULTS OF STP CAST 187 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.80	32.52	0	25.23	274.5	0.0	0.0	1483.
10	8.54	32.54	10	25.29	269.6	0.27	0.01	1482.
20	8.51	32.54	20	25.29	269.4	0.54	0.05	1482.
30	8.24	32.55	30	25.34	264.9	0.81	0.12	1481.
50	6.83	32.60	50	25.58	242.6	1.32	0.33	1476.
75	5.20	32.64	75	25.81	220.7	1.89	0.69	1470.
100	4.94	32.65	99	25.85	217.4	2.43	1.18	1469.
125	4.70	32.68	124	25.90	212.7	2.97	1.80	1469.
150	4.66	32.81	149	26.00	202.6	3.49	2.53	1469.
175	5.07	33.34	174	26.38	167.8	3.96	3.29	1472.
200	5.06	33.64	199	26.62	145.5	4.34	4.03	1473.
225	4.87	33.77	223	26.74	133.8	4.69	4.78	1473.
250	4.71	33.80	248	26.78	130.1	5.02	5.58	1472.
300	4.32	33.85	298	26.86	122.6	5.65	7.35	1472.
400	3.99	33.97	397	26.99	111.1	6.82	11.52	1472.
500	3.75	34.07	496	27.10	101.7	7.89	16.40	1473.
600	3.61	34.16	595	27.18	94.3	8.87	21.88	1474.
800	3.24	34.27	793	27.31	83.6	10.64	34.51	1476.
1000	2.91	34.35	990	27.40	75.6	12.23	49.01	1478.
1200	2.63	34.42	1188	27.48	68.3	13.67	65.09	1480.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 13
49-49.0 N 142-40.0 W
MO.-6 DAY-23 GMT-14.2
31
32
33
34
35
SALINITY, 0/00

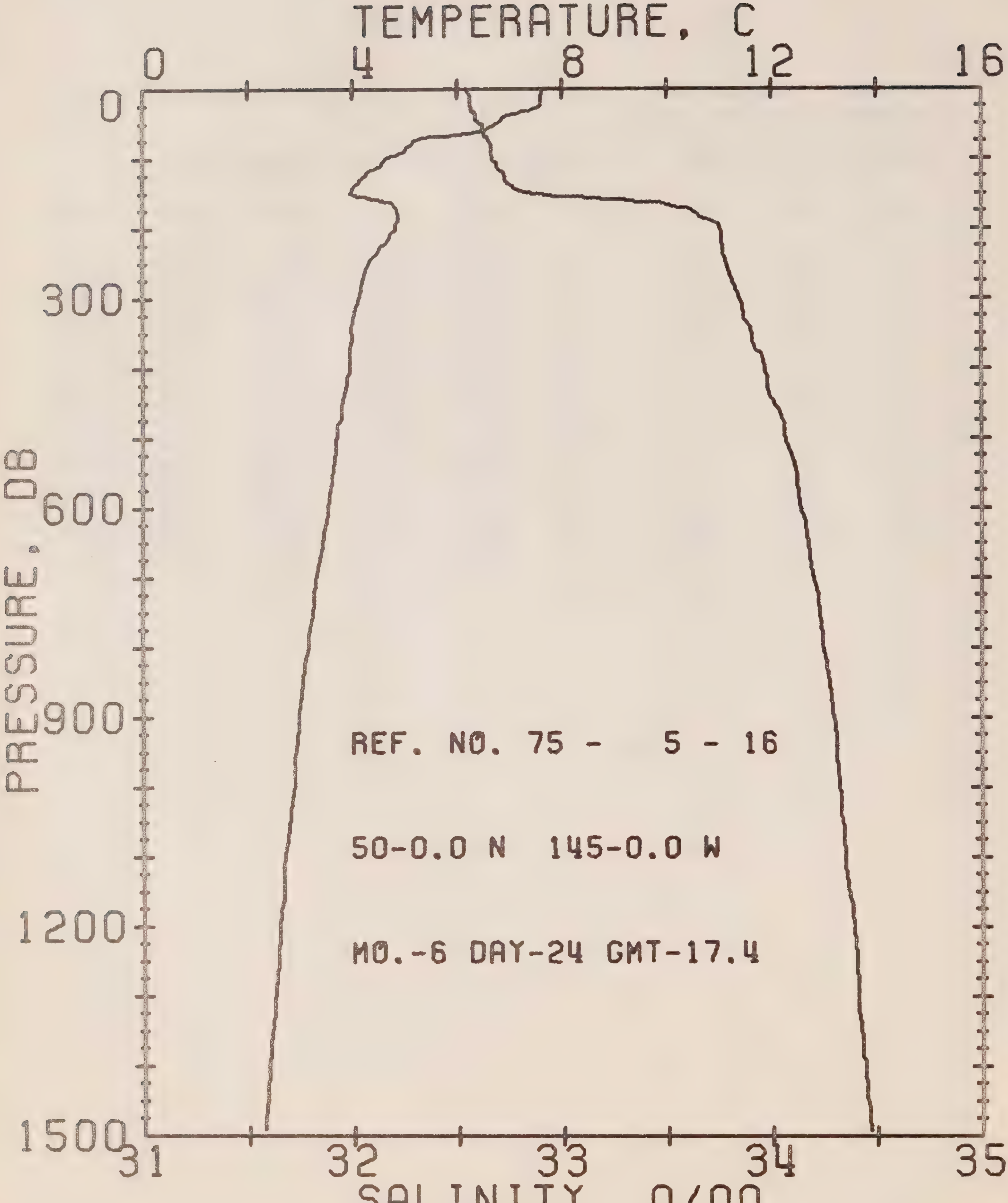
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 13 DATE 23/ 6/75
POSITION 49-49.0N, 142-40.0W GMT 14.2
RESULTS OF STP CAST 181 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.21	32.61	0	25.39	259.3	0.0	0.0	1481.
10	7.85	32.62	10	25.45	254.0	0.26	0.01	1479.
20	7.83	32.63	20	25.46	253.1	0.51	0.05	1480.
30	7.76	32.64	30	25.48	251.5	0.76	0.12	1479.
50	6.89	32.66	50	25.62	238.9	1.26	0.32	1476.
75	5.61	32.69	75	25.80	221.6	1.83	0.68	1472.
100	5.18	32.71	99	25.87	215.5	2.37	1.17	1470.
125	4.90	32.88	124	26.03	199.8	2.90	1.77	1470.
150	5.20	33.49	149	26.48	157.4	3.34	2.39	1472.
175	5.15	33.76	174	26.70	137.2	3.71	2.99	1473.
200	4.87	33.80	199	26.76	131.3	4.04	3.62	1472.
225	4.59	33.82	223	26.81	127.1	4.36	4.32	1471.
250	4.39	33.83	248	26.84	124.4	4.67	5.08	1471.
300	4.18	33.87	298	26.90	119.3	5.28	6.79	1471.
400	3.91	33.98	397	27.01	109.3	6.43	10.85	1472.
500	3.76	34.09	496	27.11	100.4	7.48	15.67	1473.
600	3.55	34.14	595	27.18	94.8	8.45	21.11	1474.
800	3.19	34.26	793	27.30	83.5	10.22	33.69	1476.
1000	2.89	34.36	990	27.41	74.4	11.79	48.04	1478.
1200	2.63	34.42	1188	27.48	68.3	13.22	64.05	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 15
50-0.0 N 145-0.0 W
MO.-6 DAY-23 GMT-23.5
31
32
33
34
35
SALINITY, 0/00

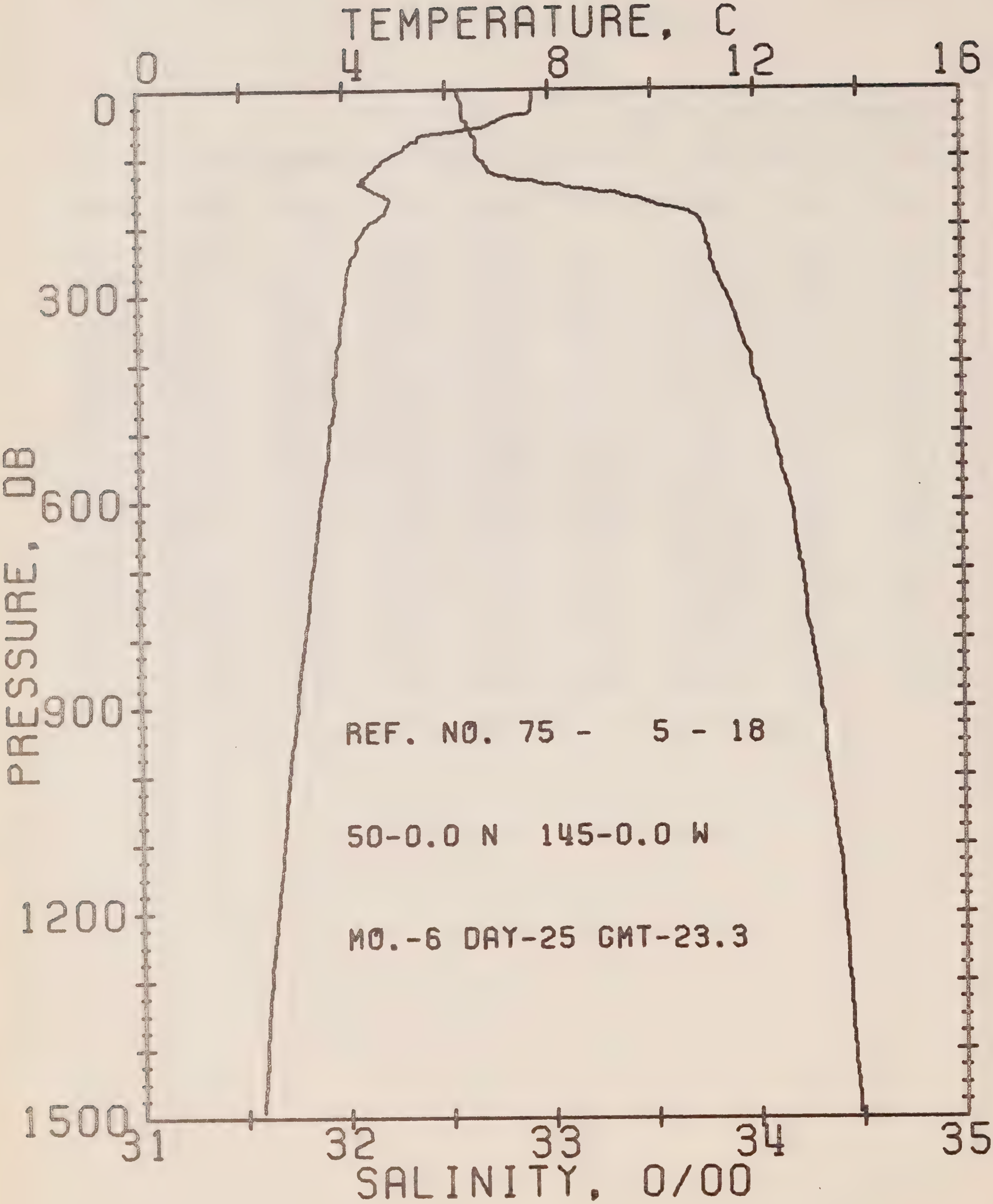
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 15 DATE 23/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 23.5
RESULTS OF STP CAST 110 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.34	32.52	0	25.30	267.8	0.0	0.0	1481.
10	8.33	32.55	10	25.33	265.9	0.27	0.01	1481.
20	8.26	32.55	20	25.34	265.0	0.53	0.05	1481.
30	7.82	32.56	30	25.41	258.4	0.79	0.12	1480.
50	6.28	32.59	50	25.64	236.5	1.30	0.32	1474.
75	5.19	32.66	75	25.83	219.1	1.86	0.68	1470.
100	4.80	32.69	99	25.89	212.9	2.40	1.17	1469.
125	4.95	33.25	124	26.32	172.7	2.90	1.74	1471.
150	4.80	33.70	149	26.69	137.8	3.28	2.27	1471.
175	4.61	33.76	174	26.76	131.3	3.62	2.82	1471.
200	4.46	33.77	199	26.79	128.9	3.94	3.44	1470.
225	4.36	33.80	223	26.82	126.1	4.26	4.13	1470.
250	4.25	33.81	248	26.84	124.5	4.57	4.89	1470.
300	4.05	33.86	298	26.90	118.6	5.18	6.60	1470.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 16
50-0.0 N 145-0.0 W
MO.-6 DAY-24 GMT-17.4
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 16   DATE 24/ 6/75
POSITION 50- 0.0N, 145- 0.0W   GMT 17.4
RESULTS OF STP CAST   178 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.62	32.55	0	25.43	255.8	0.0	0.0	1478.
10	7.61	32.56	10	25.44	255.2	0.26	0.01	1478.
20	7.61	32.56	20	25.44	255.4	0.51	0.05	1479.
30	7.42	32.57	30	25.47	252.2	0.77	0.12	1478.
50	6.75	32.62	50	25.60	240.1	1.26	0.32	1476.
75	5.16	32.65	75	25.82	219.3	1.83	0.68	1470.
100	4.66	32.67	99	25.89	213.0	2.38	1.17	1468.
125	4.21	32.72	124	25.98	204.4	2.90	1.77	1467.
150	3.96	32.88	149	26.13	190.4	3.40	2.47	1466.
175	4.87	33.63	174	26.63	144.0	3.80	3.13	1471.
200	4.83	33.75	199	26.73	134.6	4.15	3.79	1472.
225	4.56	33.77	223	26.77	130.6	4.48	4.51	1471.
250	4.29	33.78	248	26.81	126.7	4.80	5.29	1471.
300	4.11	33.85	298	26.88	120.6	5.42	7.02	1471.
400	3.94	33.97	397	27.00	110.5	6.58	11.13	1472.
500	3.69	34.07	496	27.10	101.5	7.63	15.98	1472.
600	3.52	34.14	595	27.17	94.9	8.61	21.45	1473.
800	3.13	34.24	793	27.29	84.6	10.39	34.12	1475.
1000	2.86	34.32	990	27.38	76.8	11.99	48.74	1477.
1200	2.60	34.39	1188	27.46	70.3	13.46	65.23	1480.


TEMPERATURE, C
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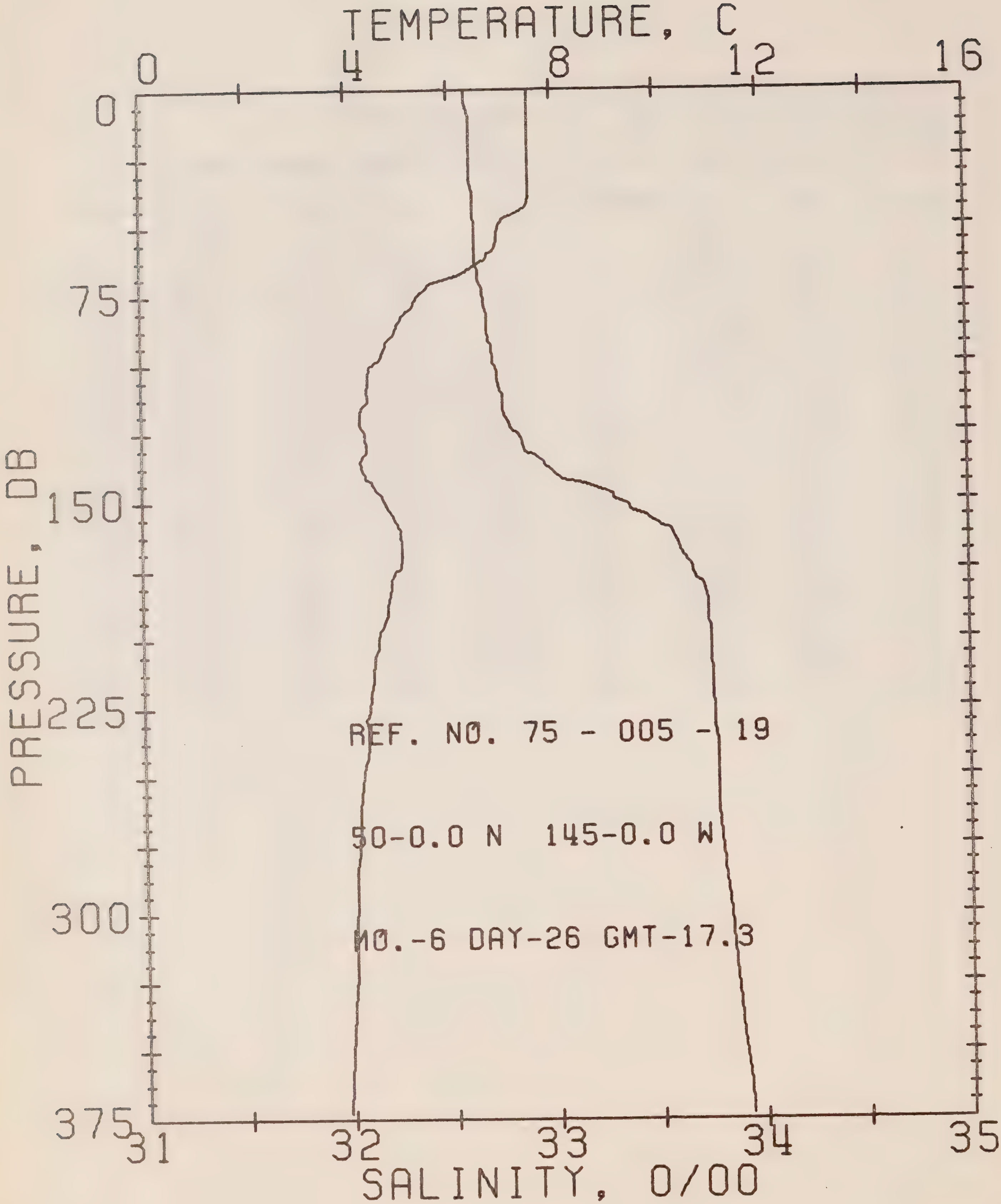
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 18
50-0.0 N 145-0.0 W
MO.-6 DAY-25 GMT-23.3
31
32
33
34
35
SALINITY, 0/00

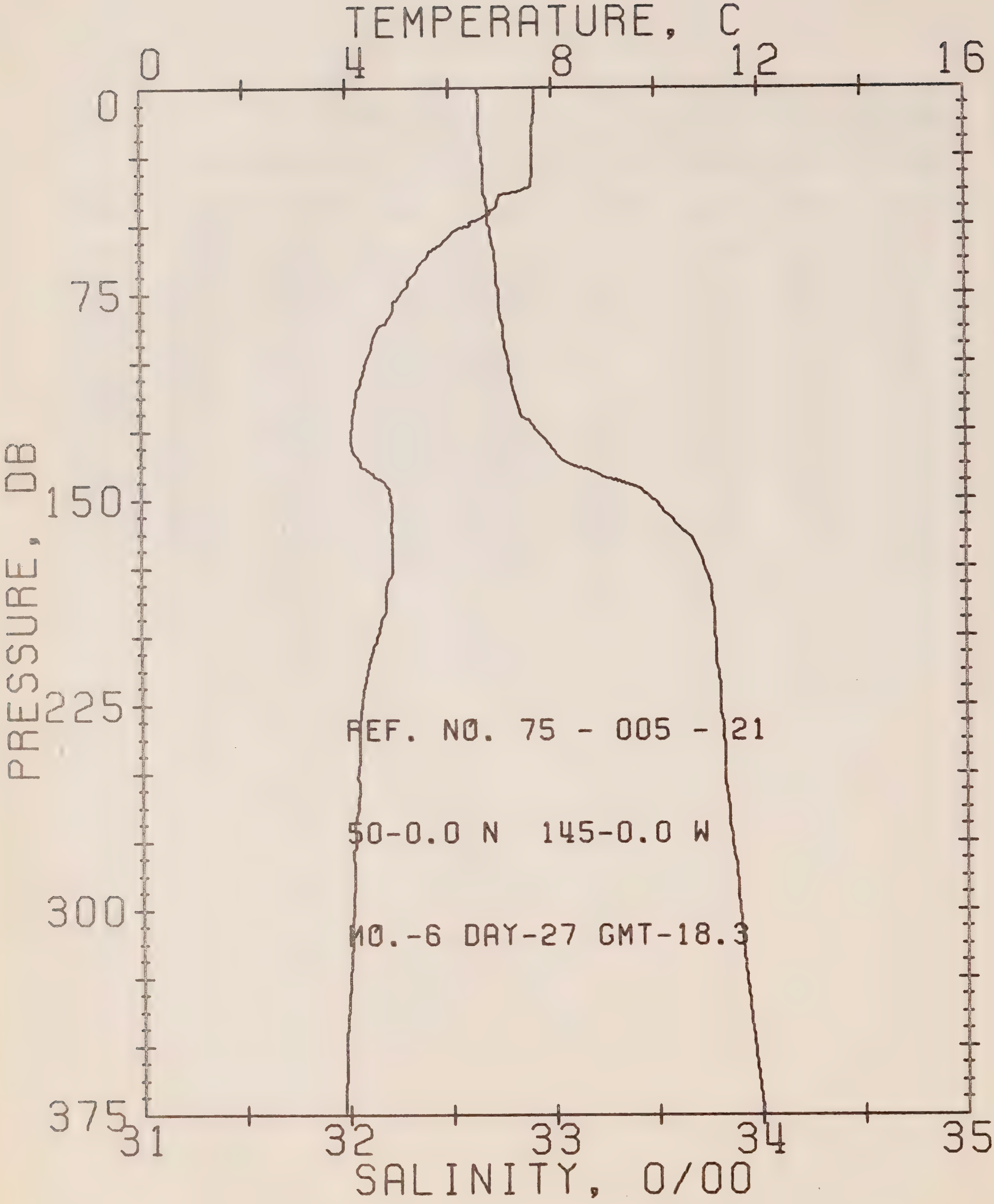
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 18 DATE 25/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 23.3
RESULTS OF STP CAST 220 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	FCT. EN	SOUND
0	7.70	32.55	0	25.42	256.8	0.0	0.0	1479.
10	7.70	32.57	10	25.44	255.7	0.26	0.01	1479.
20	7.69	32.58	20	25.44	255.1	0.51	0.05	1479.
30	7.67	32.58	30	25.45	254.8	0.77	0.12	1479.
50	6.87	32.61	50	25.58	242.4	1.26	0.32	1476.
75	5.46	32.65	75	25.79	222.8	1.84	0.69	1471.
100	4.84	32.66	99	25.87	215.3	2.39	1.17	1469.
125	4.48	32.78	124	26.00	203.0	2.92	1.78	1468.
150	4.66	33.29	149	26.38	166.8	3.38	2.42	1470.
175	4.84	33.66	174	26.66	141.2	3.77	3.07	1471.
200	4.43	33.75	199	26.77	130.3	4.11	3.71	1470.
225	4.28	33.77	223	26.80	127.6	4.43	4.41	1470.
250	4.14	33.79	248	26.83	124.7	4.74	5.17	1470.
300	4.03	33.86	298	26.90	118.5	5.35	6.87	1470.
400	3.85	33.98	397	27.02	108.7	6.48	10.90	1471.
500	3.70	34.09	496	27.12	99.7	7.52	15.68	1473.
600	3.52	34.17	595	27.20	93.0	8.49	21.09	1474.
800	3.19	34.27	793	27.31	83.3	10.25	33.63	1476.
1000	2.87	34.35	990	27.40	75.1	11.83	48.07	1478.
1200	2.61	34.41	1188	27.48	68.6	13.26	64.08	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 19
50-0.0 N 145-0.0 W
MO.-6 DAY-26 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

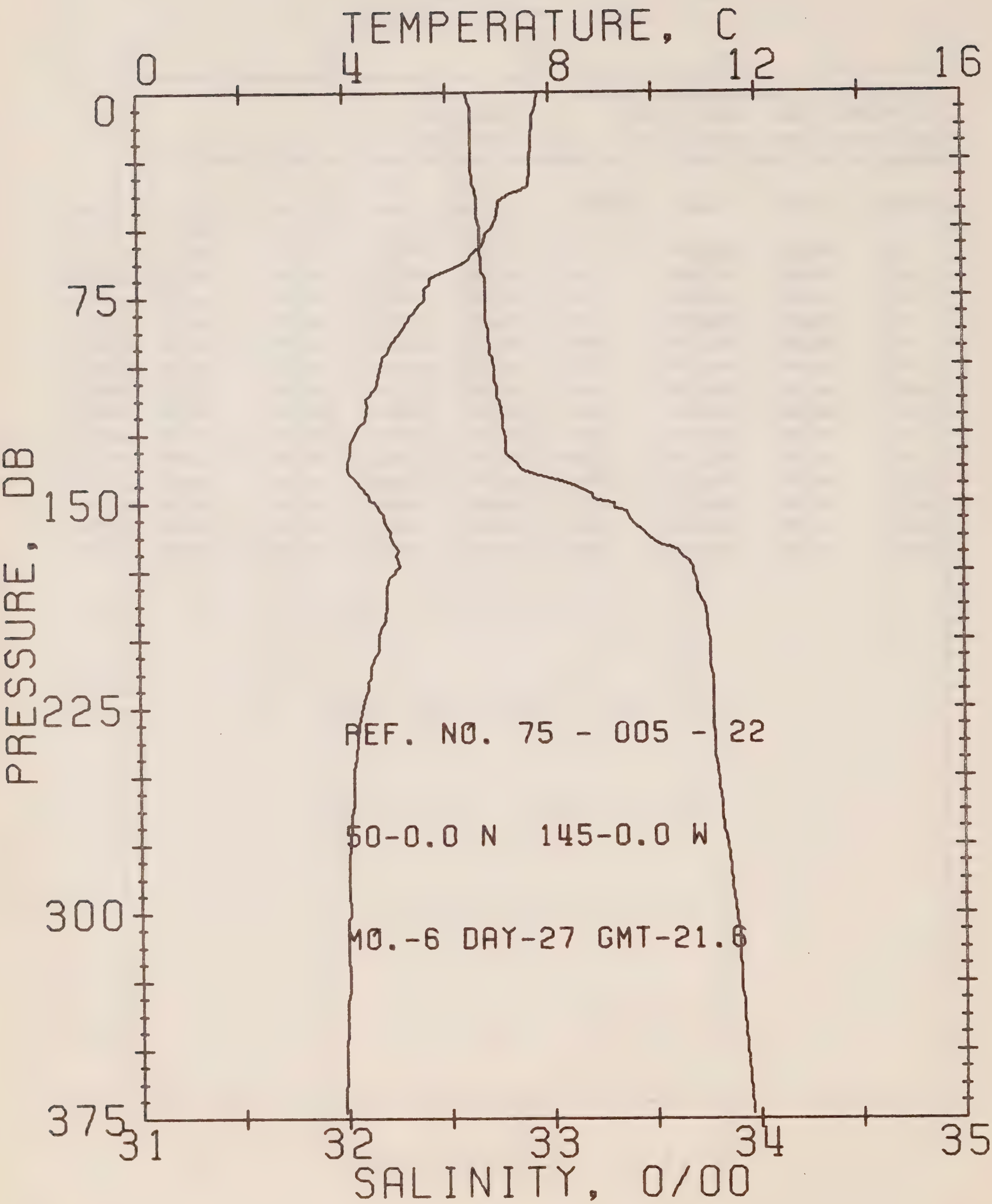
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 19 DATE 26/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 125 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	7.57	32.59	0	25.47	252.1	0.0	0.0	1478.
10	7.57	32.61	10	25.48	251.0	0.25	0.01	1478.
20	7.57	32.61	20	25.48	251.1	0.50	0.05	1478.
30	7.57	32.61	30	25.48	251.3	0.75	0.12	1479.
50	6.97	32.63	50	25.58	242.1	1.25	0.32	1477.
75	5.40	32.66	75	25.80	221.4	1.84	0.69	1471.
100	4.51	32.71	99	25.94	208.3	2.38	1.17	1468.
125	4.34	32.82	124	26.04	198.5	2.89	1.75	1467.
150	4.73	33.32	149	26.40	164.9	3.35	2.40	1470.
175	4.94	33.67	174	26.65	141.6	3.73	3.02	1472.
200	4.56	33.75	199	26.76	131.7	4.06	3.67	1471.
225	4.38	33.77	223	26.79	128.5	4.39	4.37	1470.
250	4.24	33.78	248	26.82	126.5	4.71	5.15	1470.
300	4.06	33.83	298	26.88	121.0	5.33	6.88	1470.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 21
50-0.0 N 145-0.0 W
MO.-6 DAY-27 GMT-18.3
31
32
33
34
35
SALINITY, 0/00

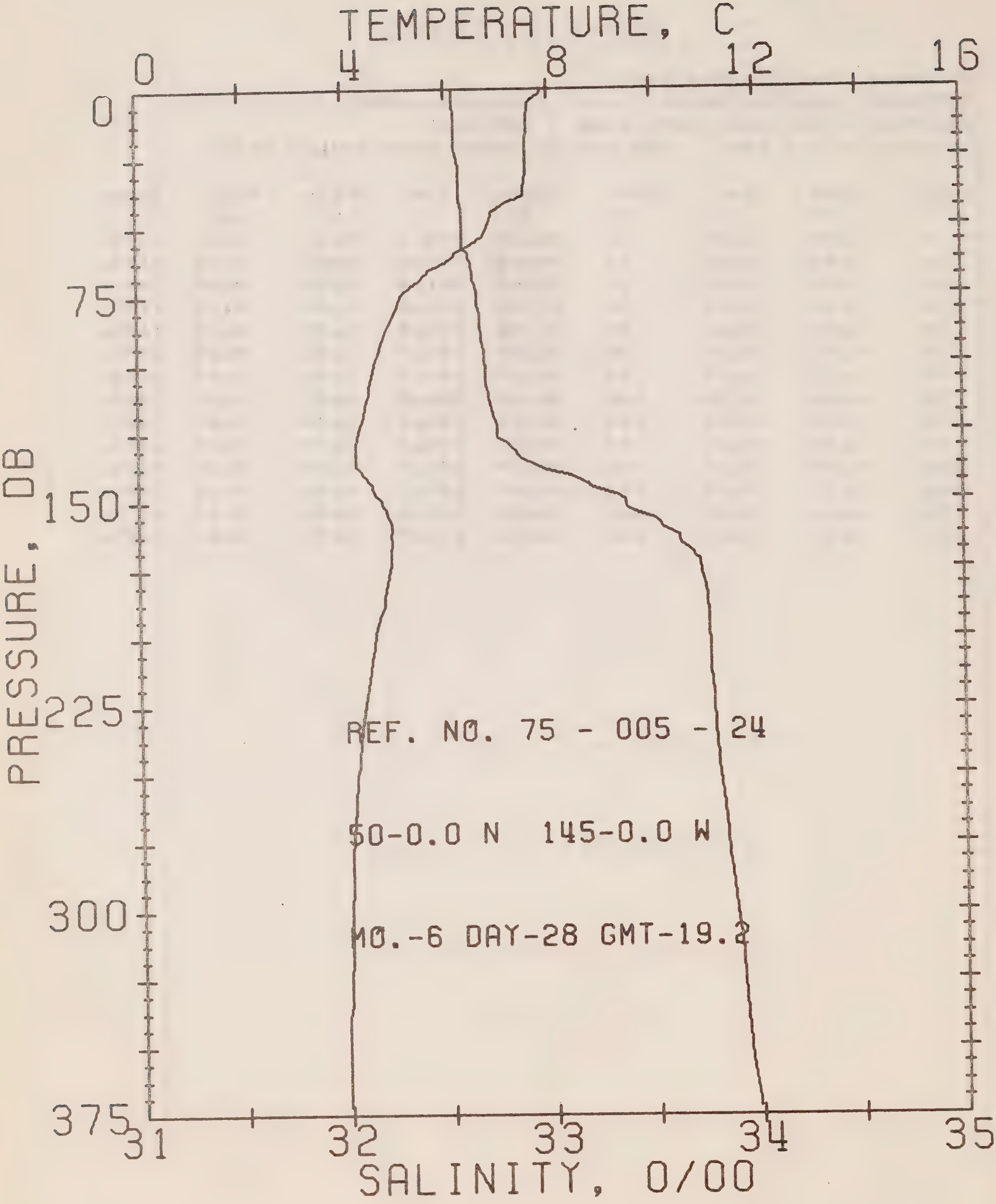
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 21 DATE 27/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.3
RESULTS OF STP CAST 116 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.67	32.64	0	25.49	249.7	0.0	0.0	1479.
10	7.66	32.65	10	25.50	249.2	0.25	0.01	1479.
20	7.63	32.66	20	25.51	248.5	0.50	0.05	1479.
30	7.62	32.67	30	25.52	247.5	0.75	0.11	1479.
50	6.44	32.69	50	25.70	231.0	1.23	0.31	1475.
75	5.06	32.74	75	25.90	211.6	1.77	0.66	1469.
100	4.36	32.79	99	26.02	201.0	2.29	1.12	1467.
125	4.08	32.92	124	26.15	188.5	2.78	1.68	1466.
150	4.86	33.48	149	26.51	154.7	3.22	2.29	1471.
175	4.88	33.73	174	26.71	136.2	3.58	2.88	1472.
200	4.57	33.78	199	26.78	129.6	3.91	3.51	1471.
225	4.25	33.81	223	26.84	124.2	4.22	4.20	1470.
250	4.18	33.83	248	26.86	122.1	4.53	4.94	1470.
300	4.07	33.90	298	26.93	116.4	5.13	6.61	1471.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 22
50-0.0 N 145-0.0 W
MO.-6 DAY-27 GMT-21.6
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 22 DATE 27/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 21.6
RESULTS OF STP CAST 128 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.79	32.60	0	25.45	254.3	0.0	0.0	1479.
10	7.68	32.62	10	25.48	251.6	0.25	0.01	1479.
20	7.65	32.62	20	25.48	251.5	0.50	0.05	1479.
30	7.62	32.62	30	25.49	251.2	0.76	0.12	1479.
50	6.86	32.66	50	25.62	238.5	1.24	0.31	1476.
75	5.56	32.69	75	25.81	221.0	1.82	0.68	1471.
100	4.71	32.72	99	25.93	209.2	2.36	1.16	1468.
125	4.18	32.78	124	26.03	200.3	2.87	1.75	1467.
150	4.60	33.31	149	26.41	164.6	3.34	2.40	1470.
175	4.96	33.69	174	26.67	140.4	3.72	3.04	1472.
200	4.63	33.77	199	26.76	131.2	4.06	3.68	1471.
225	4.32	33.78	223	26.81	127.1	4.38	4.38	1470.
250	4.14	33.80	248	26.85	123.6	4.70	5.14	1470.
300	4.04	33.89	298	26.92	116.7	5.30	6.82	1470.


TEMPERATURE, C
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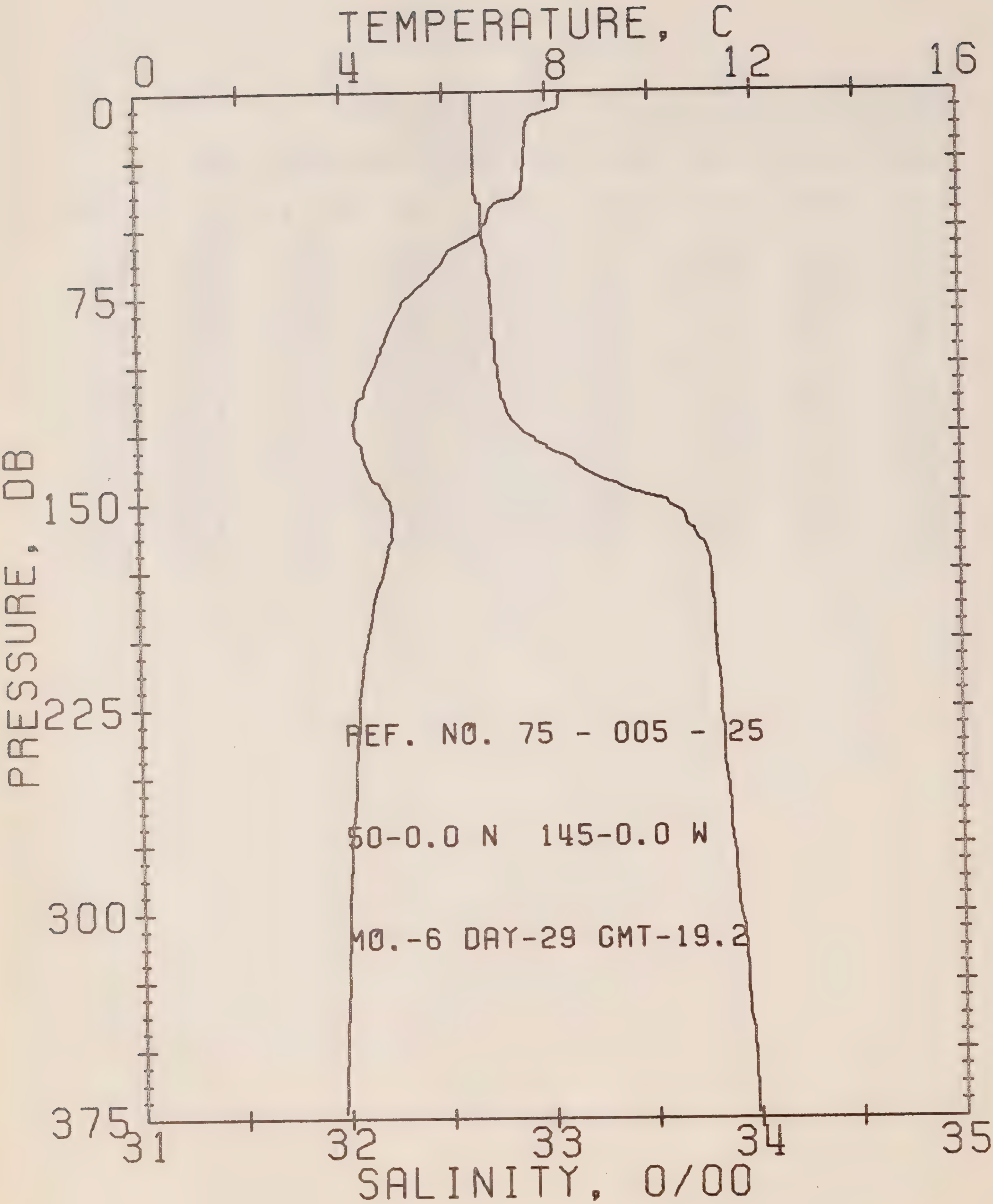
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 24
50-0.0 N 145-0.0 W
MO.-6 DAY-28 GMT-19.2
31
32
33
34
35
SALINITY, 0/00

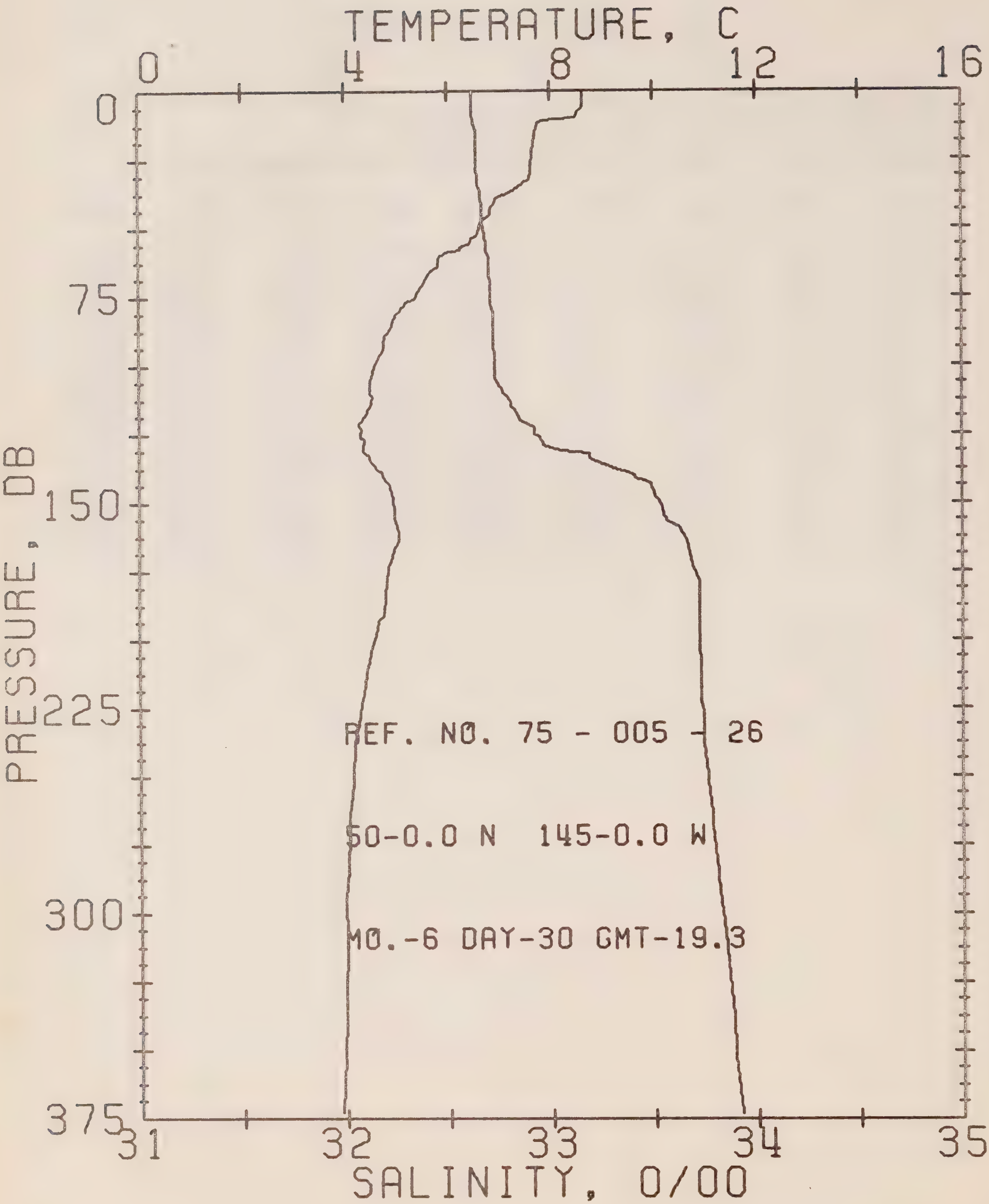
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 24 DATE 28/ 6/75
POSITION 50- 0.0N, 145- 0.0W GMT 19.2
RESULTS OF STP CAST 109 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.90	32.54	0	25.38	260.3	0.0	0.0	1479.
10	7.60	32.55	10	25.43	256.0	0.26	0.01	1478.
20	7.58	32.55	20	25.44	255.7	0.51	0.05	1478.
30	7.56	32.57	30	25.45	254.1	0.77	0.12	1479.
50	6.80	32.58	50	25.57	243.8	1.27	0.32	1476.
75	5.12	32.65	75	25.83	219.1	1.85	0.69	1470.
100	4.60	32.68	99	25.91	211.5	2.39	1.17	1468.
125	4.26	32.74	124	25.99	203.7	2.91	1.76	1467.
150	4.73	33.36	149	26.43	162.3	3.37	2.41	1470.
175	4.85	33.72	174	26.71	136.5	3.74	3.02	1472.
200	4.56	33.76	199	26.77	130.6	4.07	3.66	1471.
225	4.34	33.78	223	26.81	127.3	4.40	4.36	1470.
250	4.17	33.81	248	26.85	123.6	4.71	5.12	1470.
300	4.03	33.88	298	26.92	117.1	5.31	6.80	1470.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 25
50-0.0 N 145-0.0 W
MO.-6 DAY-29 GMT-19.2
31
32
33
34
35
SALINITY, 0/00

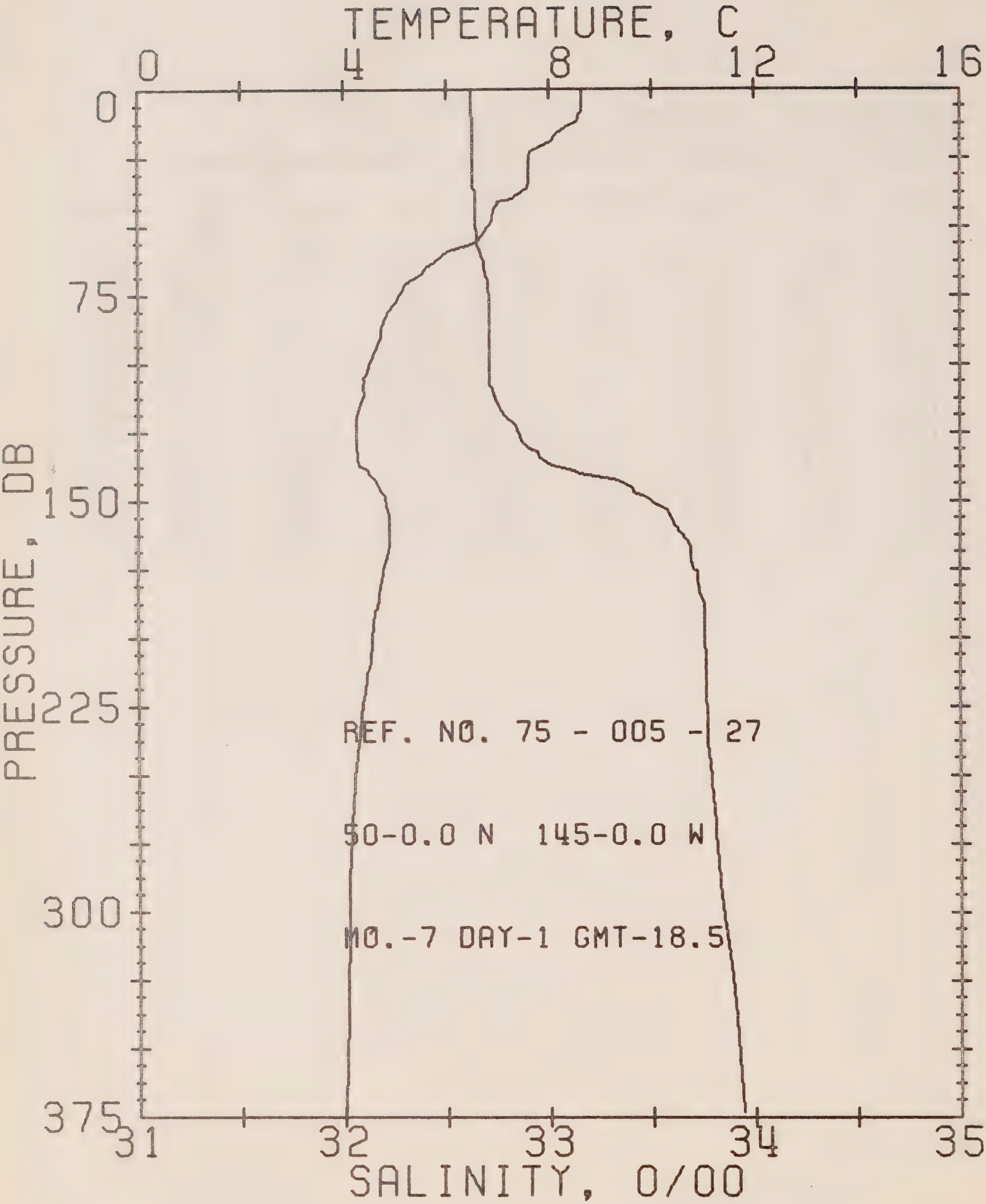
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 25   DATE 29/ 6/75
POSITION 50- 0.0N, 145- 0.0W   GMT 19.2
RESULTS OF STP CAST   120 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.28	32.64	0	25.41	258.1	0.0	0.0	1481.
10	7.66	32.64	10	25.49	250.0	0.26	0.01	1479.
20	7.58	32.65	20	25.51	248.2	0.50	0.05	1479.
30	7.55	32.65	30	25.52	247.9	0.75	0.11	1479.
50	6.71	32.68	50	25.66	235.1	1.24	0.31	1476.
75	5.26	32.72	75	25.87	215.4	1.80	0.67	1470.
100	4.61	32.75	99	25.96	206.3	2.32	1.14	1468.
125	4.21	32.89	124	26.11	192.0	2.83	1.71	1467.
150	4.89	33.58	149	26.59	147.5	3.26	2.31	1471.
175	4.74	33.79	174	26.77	130.7	3.60	2.88	1471.
200	4.42	33.81	199	26.82	125.7	3.92	3.49	1470.
225	4.24	33.83	223	26.86	122.6	4.23	4.17	1470.
250	4.16	33.85	248	26.88	120.3	4.54	4.90	1470.
300	4.00	33.91	298	26.94	114.7	5.12	6.55	1470.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 26
50-0.0 N 145-0.0 W
MO.-6 DAY-30 GMT-19.3
31
32
33
34
35
SALINITY, 0/00

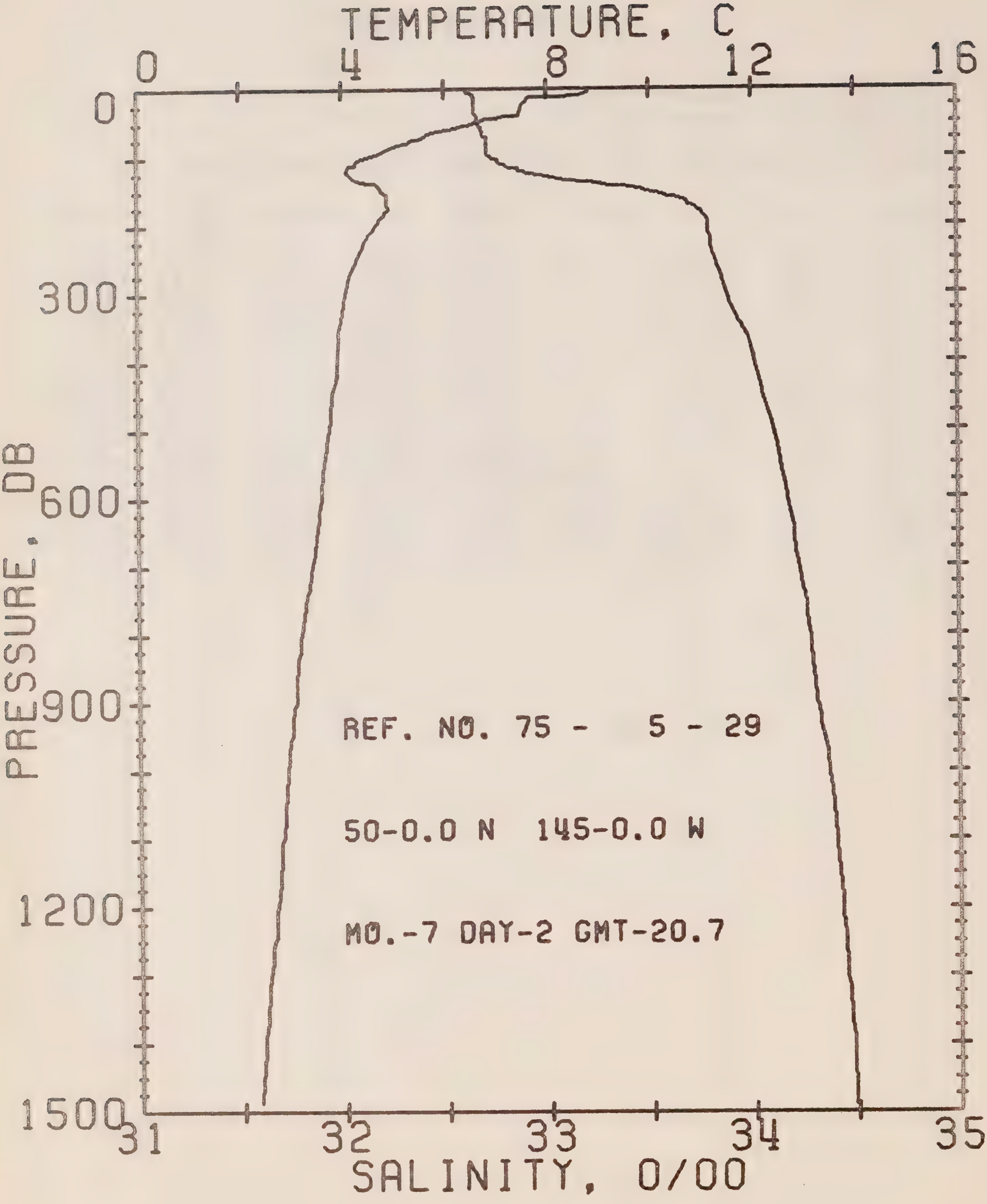
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 26 DATE 30/ 6/75
POSITION 50- 0.0N. 145- 0.0W GMT 19.3
RESULTS OF STP CAST 120 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.63	32.62	0	25.34	264.6	0.0	0.0	1482.
10	8.48	32.62	10	25.36	262.8	0.26	0.01	1482.
20	7.67	32.64	20	25.49	250.2	0.52	0.05	1479.
30	7.62	32.64	30	25.50	249.4	0.77	0.12	1479.
50	6.61	32.67	50	25.66	234.3	1.25	0.31	1475.
75	5.36	32.71	75	25.85	217.2	1.81	0.67	1471.
100	4.56	32.73	99	25.95	207.3	2.34	1.14	1468.
125	4.29	32.92	124	26.13	190.5	2.84	1.71	1467.
150	4.94	33.53	149	26.54	152.1	3.26	2.30	1471.
175	4.83	33.70	174	26.69	138.1	3.62	2.90	1471.
200	4.55	33.72	199	26.74	133.8	3.96	3.55	1471.
225	4.28	33.73	223	26.78	130.1	4.29	4.26	1470.
250	4.13	33.76	248	26.81	126.9	4.61	5.04	1470.
300	3.98	33.83	298	26.88	120.7	5.23	6.77	1470.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 27
50-0.0 N 145-0.0 W
MO.-7 DAY-1 GMT-18.5
31
32
33
34
35
SALINITY, 0/00

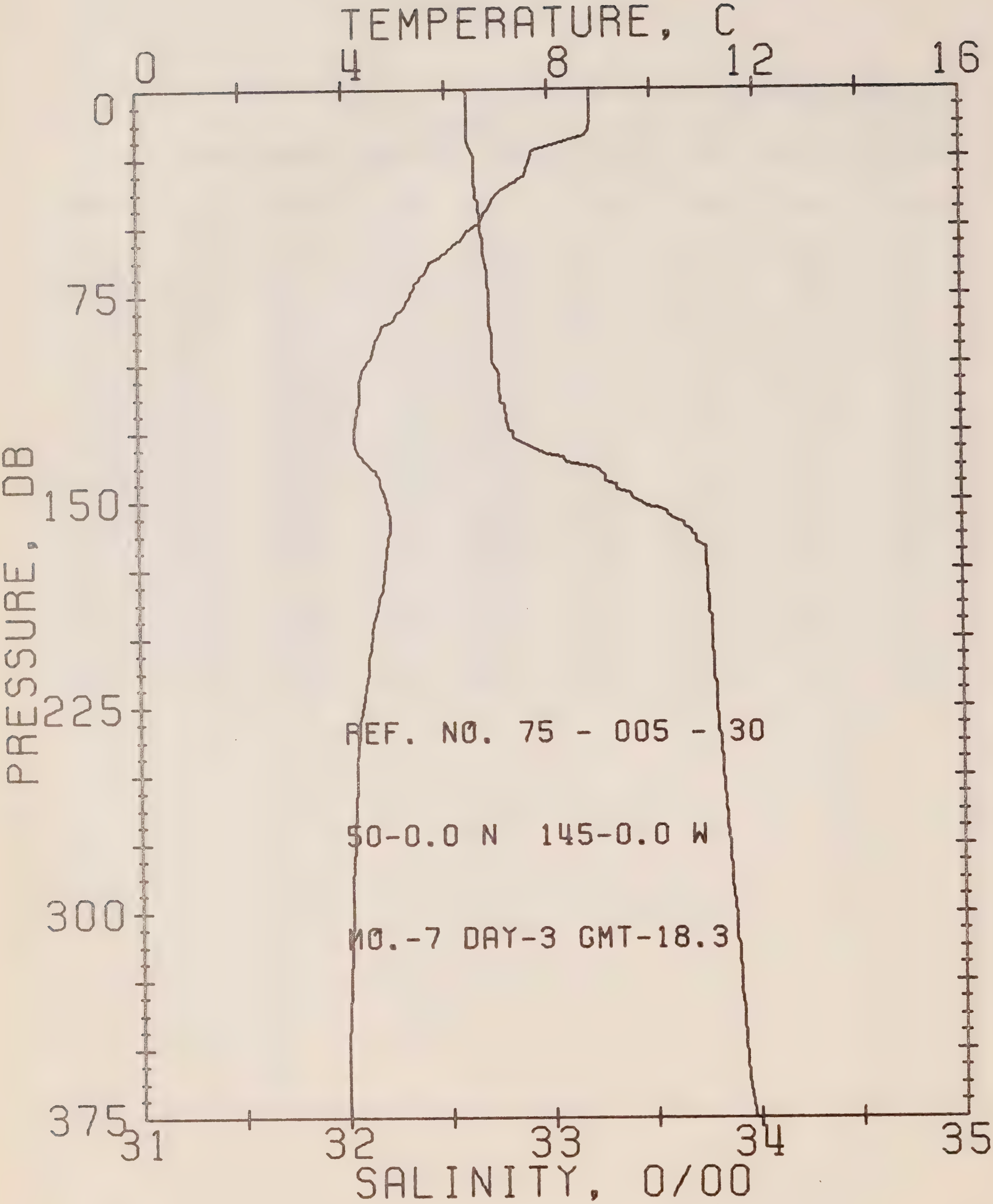
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 27 DATE 1/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.0
RESULTS OF STP CAST 109 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.64	32.62	0	25.34	264.8	0.0	0.0	1482.
10	8.57	32.62	10	25.35	263.9	0.26	0.01	1482.
20	7.92	32.63	20	25.45	254.4	0.52	0.05	1480.
30	7.59	32.63	30	25.50	250.0	0.77	0.12	1479.
50	6.79	32.64	50	25.61	239.1	1.26	0.32	1476.
75	5.08	32.71	75	25.87	214.4	1.83	0.67	1470.
100	4.48	32.71	99	25.94	208.0	2.36	1.14	1467.
125	4.24	32.84	124	26.07	195.7	2.87	1.73	1467.
150	4.81	33.49	149	26.53	153.1	3.31	2.35	1471.
175	4.76	33.70	174	26.70	137.4	3.67	2.94	1471.
200	4.54	33.75	199	26.76	131.5	4.00	3.58	1471.
225	4.35	33.77	223	26.79	128.5	4.33	4.28	1470.
250	4.20	33.79	248	26.83	125.4	4.64	5.05	1470.
300	4.07	33.85	298	26.89	120.2	5.26	6.77	1470.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 29
50-0.0 N 145-0.0 W
MO.-7 DAY-2 GMT-20.7
31
32
33
34
35
SALINITY, 0/00

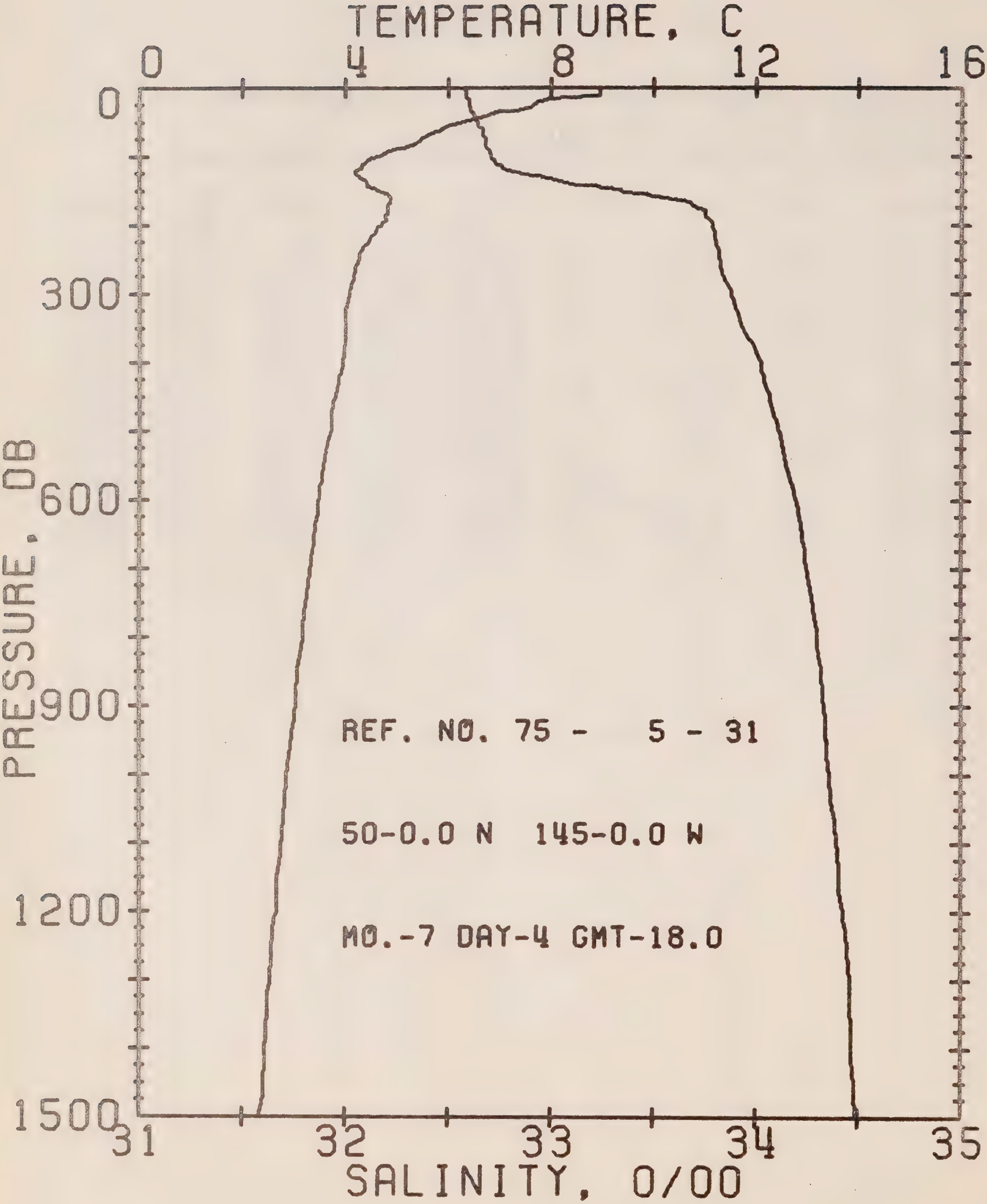
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 29 DATE 2/ 7/75
POSITION 50- 0.0N. 145- 0.0W GMT 20.7
RESULTS OF STP CAST 170 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.84	32.61	0	25.30	268.4	0.0	0.0	1483.
10	8.65	32.64	10	25.35	263.8	0.27	0.01	1482.
20	7.56	32.65	20	25.52	248.0	0.52	0.05	1479.
30	7.48	32.65	30	25.53	247.1	0.77	0.11	1478.
50	6.61	32.67	50	25.66	234.6	1.25	0.31	1475.
75	5.36	32.71	75	25.85	217.2	1.81	0.67	1471.
100	4.51	32.73	99	25.95	207.1	2.35	1.14	1468.
125	4.15	32.97	124	26.18	185.3	2.84	1.71	1467.
150	4.78	33.49	149	26.53	153.1	3.26	2.30	1471.
175	4.92	33.73	174	26.71	136.6	3.62	2.89	1472.
200	4.66	33.79	199	26.78	129.8	3.95	3.53	1471.
225	4.42	33.80	223	26.81	126.6	4.27	4.22	1471.
250	4.27	33.82	248	26.85	123.8	4.59	4.98	1470.
300	4.06	33.88	298	26.91	117.6	5.19	6.67	1470.
400	3.96	34.01	397	27.03	107.5	6.31	10.64	1472.
500	3.72	34.10	496	27.13	99.0	7.34	15.36	1473.
600	3.56	34.17	595	27.20	93.0	8.30	20.73	1474.
800	3.16	34.28	793	27.32	82.2	10.05	33.21	1475.
1000	2.88	34.37	990	27.42	73.6	11.62	47.55	1478.
1200	2.65	34.43	1188	27.49	67.9	13.03	63.38	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 30
50-0.0 N 145-0.0 W
MO.-7 DAY-3 GMT-18.3
31
32
33
34
35
SALINITY, 0/00

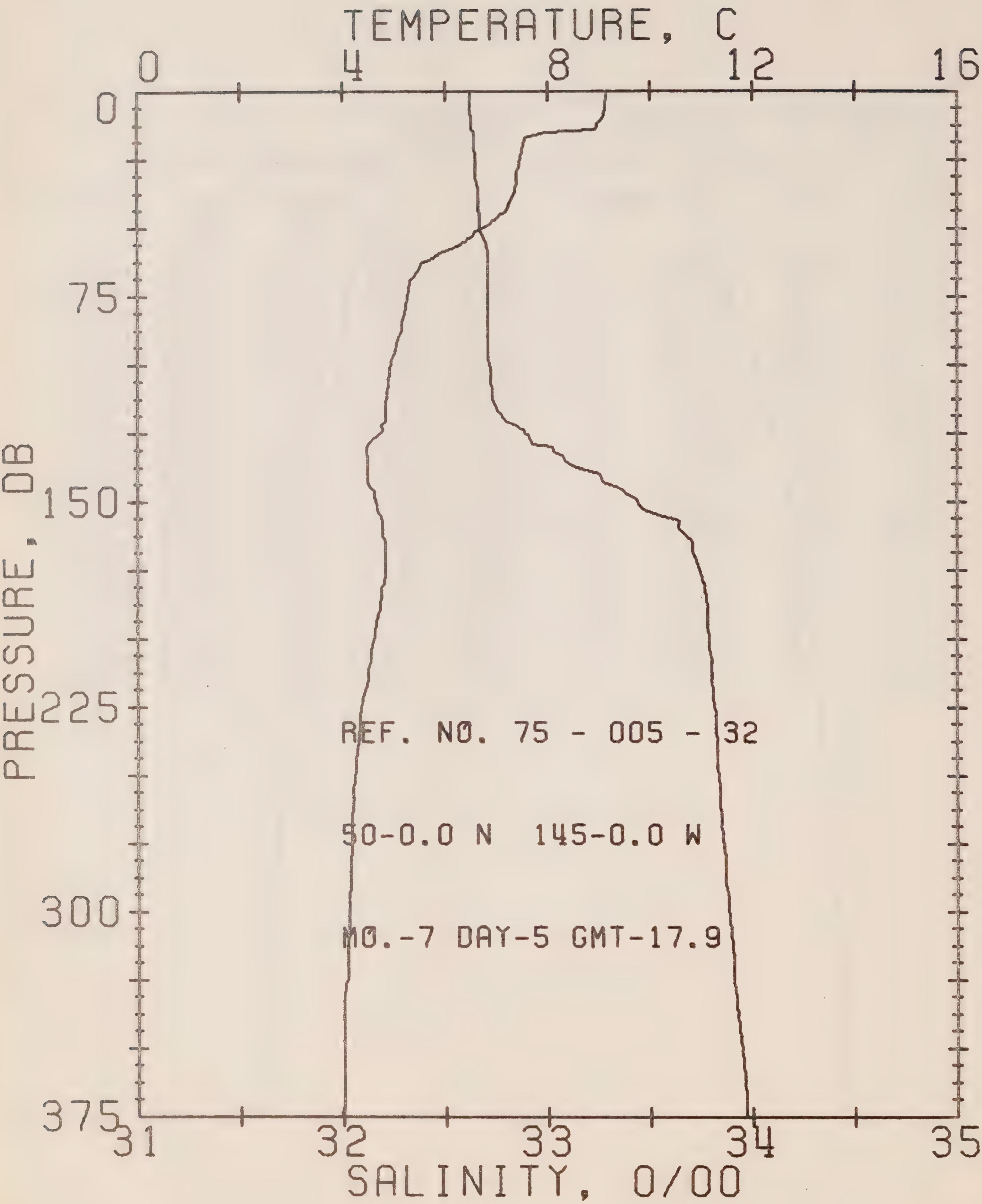
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 30 DATE 3/ 7/75
POSITION 50- 0.0N. 145- 0.0W GMT 18.3
RESULTS OF STP CAST 139 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.84	32.60	0	25.29	269.1	0.0	0.0	1483.
10	8.83	32.61	10	25.30	268.6	0.27	0.01	1483.
20	8.16	32.61	20	25.40	258.9	0.54	0.05	1481.
30	7.56	32.64	30	25.51	248.9	0.79	0.12	1479.
50	6.56	32.67	50	25.67	233.9	1.27	0.31	1475.
75	5.30	32.71	75	25.85	216.5	1.83	0.67	1470.
100	4.43	32.72	99	25.96	206.7	2.36	1.14	1467.
125	4.18	32.82	124	26.06	196.9	2.86	1.72	1467.
150	4.81	33.42	149	26.47	158.3	3.30	2.34	1471.
175	4.76	33.76	174	26.74	133.2	3.65	2.92	1471.
200	4.51	33.78	199	26.79	128.9	3.98	3.54	1471.
225	4.31	33.80	223	26.83	125.4	4.30	4.23	1470.
250	4.18	33.83	248	26.86	122.0	4.61	4.98	1470.
300	4.07	33.89	298	26.92	117.3	5.21	6.65	1471.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 31
50-0.0 N 145-0.0 W
MO.-7 DAY-4 GMT-18.0
31
32
33
34
35
SALINITY, 0/00

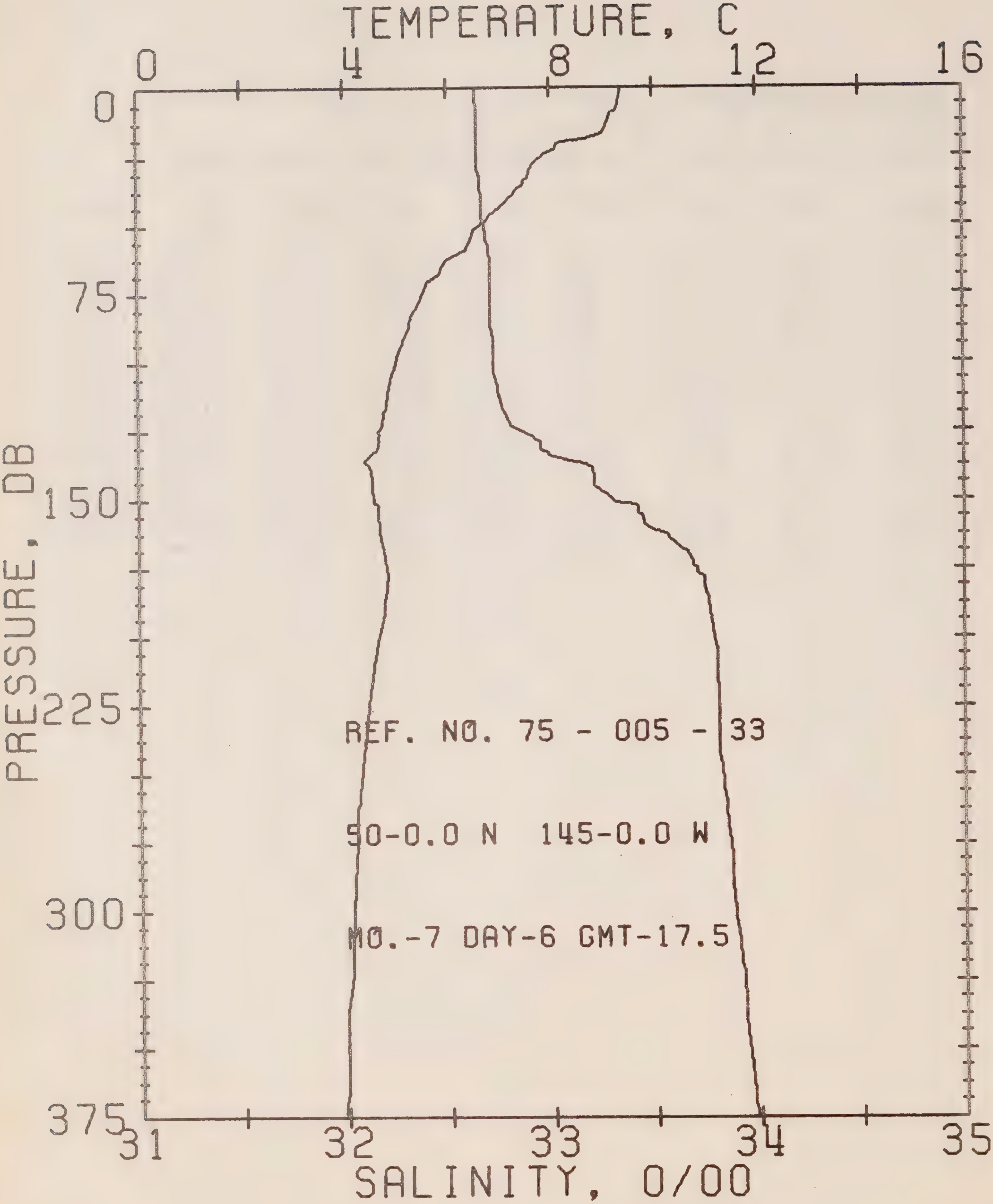
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 31 DATE 4/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.0
RESULTS OF STP CAST 206 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.96	32.58	0	25.26	272.4	0.0	0.0	1483.
10	8.95	32.59	10	25.27	271.9	0.27	0.01	1484.
20	7.74	32.60	20	25.45	254.1	0.54	0.05	1479.
30	7.54	32.61	30	25.49	250.8	0.79	0.12	1479.
50	6.26	32.64	50	25.68	232.6	1.27	0.31	1474.
75	5.45	32.68	75	25.81	220.5	1.83	0.67	1471.
100	4.60	32.71	99	25.93	209.2	2.37	1.15	1468.
125	4.20	32.86	124	26.09	194.1	2.88	1.73	1467.
150	4.61	33.34	149	26.43	162.5	3.33	2.36	1470.
175	4.82	33.71	174	26.70	136.9	3.69	2.97	1471.
200	4.68	33.79	199	26.78	130.1	4.03	3.60	1471.
225	4.43	33.81	223	26.82	126.0	4.35	4.30	1471.
250	4.26	33.82	248	26.85	123.4	4.66	5.05	1470.
300	4.08	33.88	298	26.91	117.8	5.26	6.74	1471.
400	3.95	34.03	397	27.04	106.3	6.39	10.74	1472.
500	3.72	34.11	496	27.13	98.2	7.41	15.42	1473.
600	3.48	34.20	595	27.22	90.2	8.35	20.69	1473.
800	3.17	34.30	793	27.34	80.6	10.05	32.81	1475.
1000	2.86	34.36	990	27.41	74.2	11.60	46.95	1478.
1200	2.66	34.43	1188	27.49	67.9	13.02	62.86	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 32
50-0.0 N 145-0.0 W
MO.-7 DAY-5 GMT-17.9
31
32
33
34
35
SALINITY, 0/00

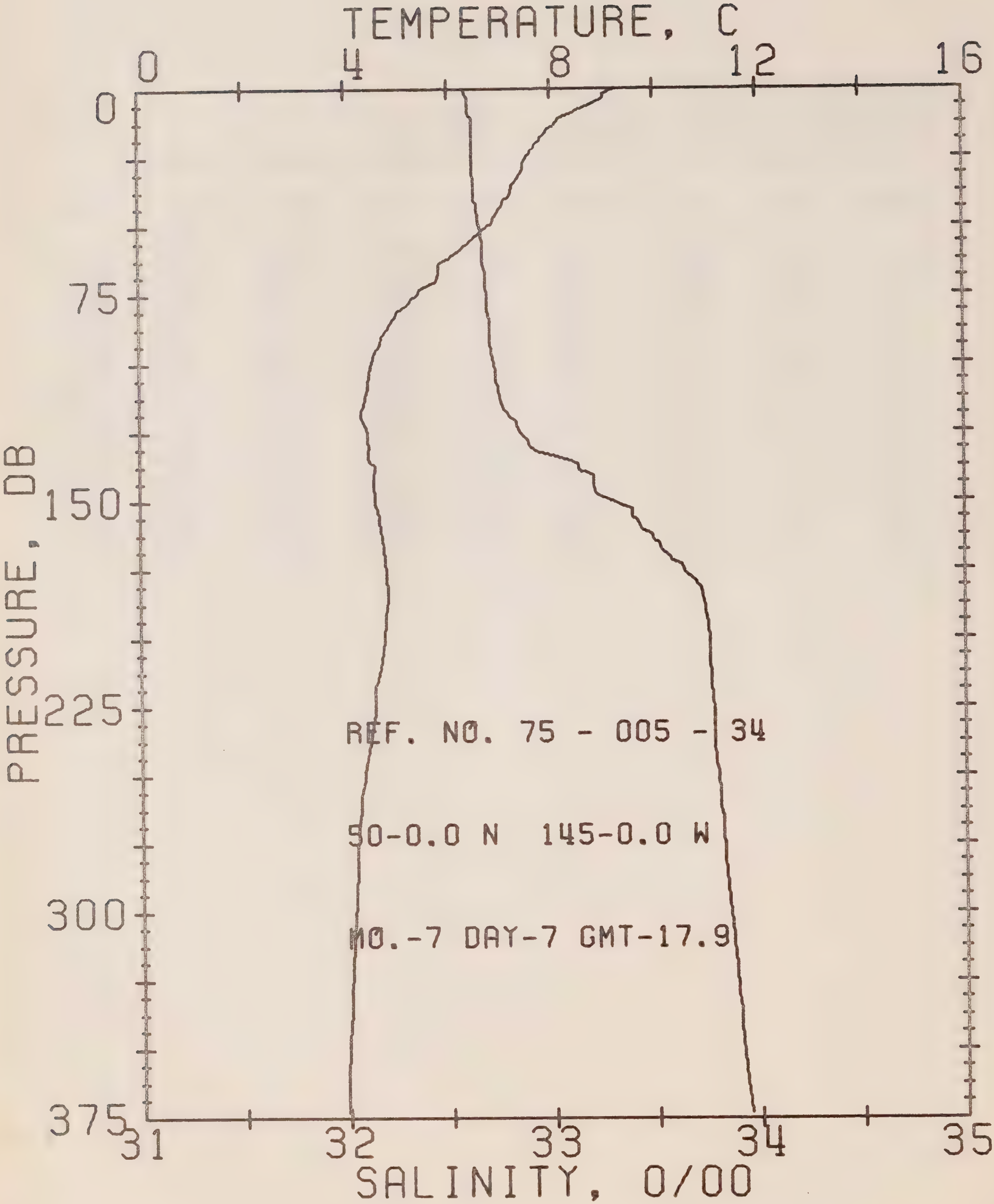
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 32 DATE 5/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.9
RESULTS OF STP CAST 130 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.15	32.62	0	25.26	272.2	0.0	0.0	1484.
10	9.07	32.63	10	25.28	270.7	0.27	0.01	1484.
20	7.51	32.64	20	25.52	248.0	0.53	0.05	1478.
30	7.39	32.65	30	25.54	245.9	0.78	0.12	1478.
50	6.70	32.67	50	25.65	235.8	1.26	0.31	1476.
75	5.25	32.71	75	25.86	215.9	1.82	0.67	1470.
100	4.91	32.71	99	25.90	212.2	2.36	1.14	1469.
125	4.71	32.89	124	26.06	197.1	2.88	1.74	1469.
150	4.66	33.43	149	26.50	155.9	3.31	2.35	1470.
175	4.82	33.74	174	26.72	135.0	3.67	2.94	1471.
200	4.59	33.79	199	26.79	129.1	4.00	3.57	1471.
225	4.35	33.81	223	26.83	124.8	4.32	4.26	1470.
250	4.22	33.83	248	26.86	122.3	4.62	5.00	1470.
300	4.10	33.88	298	26.91	117.7	5.22	6.68	1471.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 33
50-0.0 N 145-0.0 W
MO.-7 DAY-6 GMT-17.5
31
32
33
34
35
SALINITY, 0/00

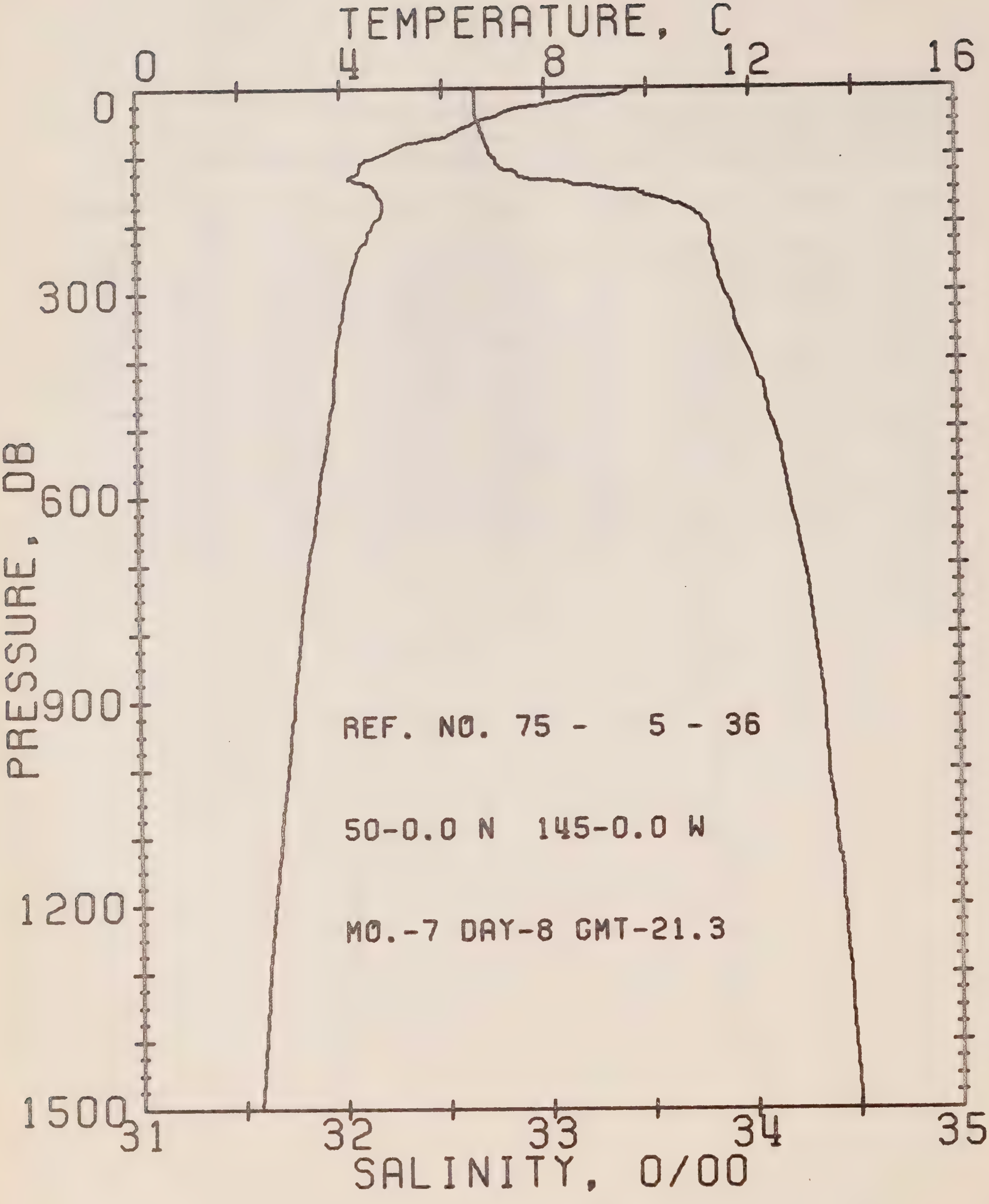
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 33 DATE 6/ 7/75
POSITION 50- 0.0N. 145- 0.0W GMT 17.5
RESULTS OF STP CAST 133 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.39	32.64	0	25.23	274.4	0.0	0.0	1485.
10	9.16	32.65	10	25.28	270.6	0.27	0.01	1484.
20	8.22	32.65	20	25.42	257.0	0.54	0.05	1481.
30	7.60	32.65	30	25.51	248.6	0.79	0.12	1479.
50	6.64	32.68	50	25.67	234.2	1.28	0.32	1475.
75	5.52	32.71	75	25.83	219.0	1.84	0.68	1471.
100	4.98	32.72	99	25.90	212.6	2.38	1.16	1470.
125	4.65	32.85	124	26.04	199.5	2.90	1.75	1469.
150	4.56	33.30	149	26.40	165.3	3.35	2.38	1469.
175	4.81	33.71	174	26.70	137.2	3.72	3.00	1471.
200	4.62	33.79	199	26.78	129.6	4.06	3.63	1471.
225	4.43	33.81	223	26.82	126.0	4.38	4.32	1471.
250	4.28	33.82	248	26.85	123.6	4.69	5.08	1471.
300	4.10	33.88	298	26.91	118.0	5.29	6.77	1471.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 34
50-0.0 N 145-0.0 W
MO.-7 DAY-7 GMT-17.9
31
32
33
34
35
SALINITY, 0/00

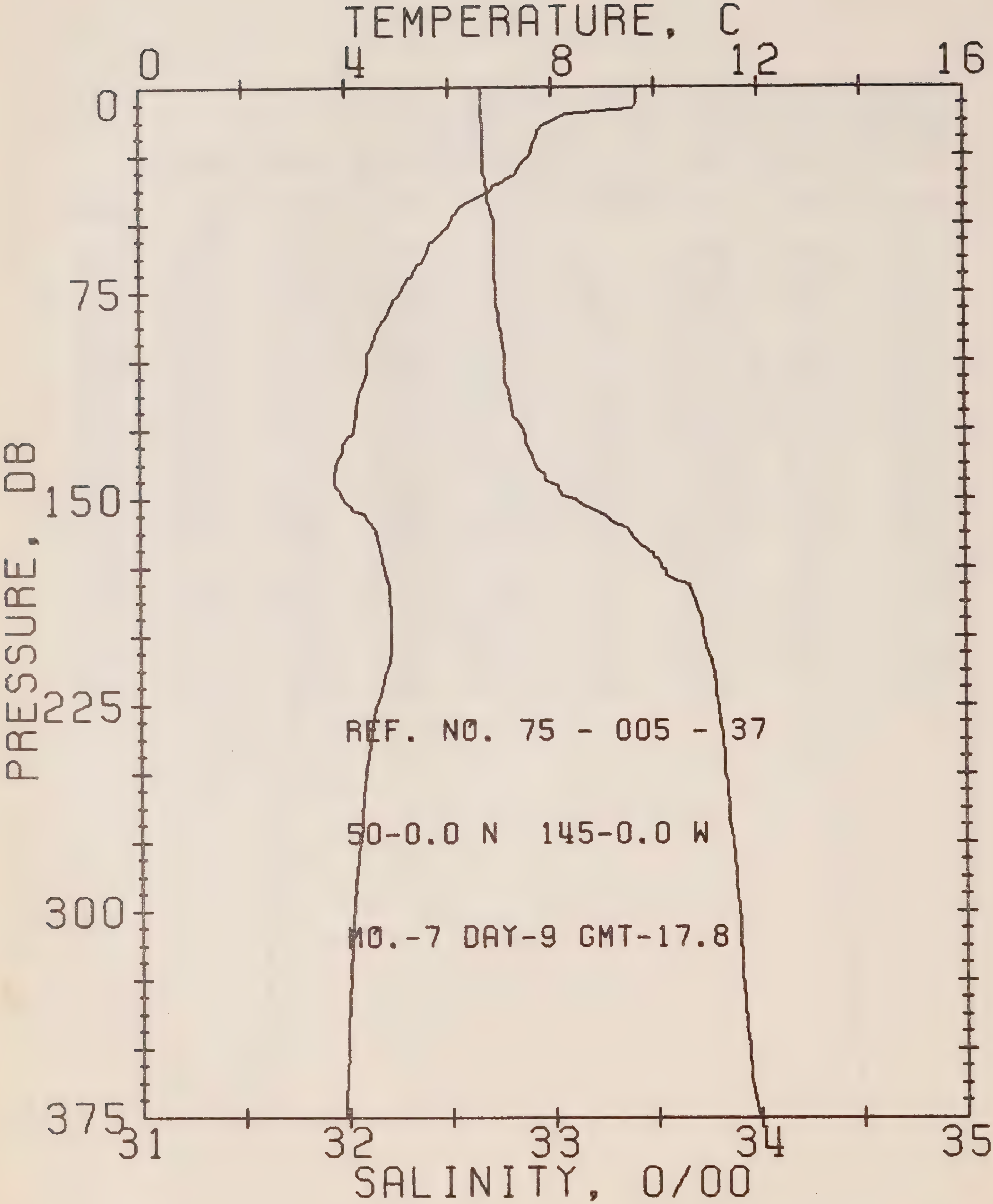
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 34 DATE 7/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.9
RESULTS OF STP CAST 125 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.25	32.59	0	25.22	276.0	0.0	0.0	1485.
10	8.28	32.61	10	25.38	260.7	0.27	0.01	1481.
20	7.73	32.62	20	25.47	252.5	0.53	0.05	1479.
30	7.44	32.62	30	25.51	248.8	0.78	0.12	1478.
50	6.79	32.65	50	25.63	238.0	1.26	0.31	1476.
75	5.40	32.69	75	25.83	219.1	1.83	0.68	1471.
100	4.49	32.72	99	25.95	207.3	2.36	1.15	1467.
125	4.43	32.84	124	26.05	198.0	2.87	1.73	1468.
150	4.57	33.29	149	26.39	166.1	3.32	2.36	1469.
175	4.77	33.63	174	26.64	142.4	3.71	3.00	1471.
200	4.73	33.76	199	26.75	132.8	4.05	3.65	1472.
225	4.53	33.78	223	26.78	129.6	4.38	4.36	1471.
250	4.32	33.80	248	26.82	125.8	4.70	5.13	1471.
300	4.11	33.86	298	26.89	119.8	5.31	6.85	1471.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 36
50-0.0 N 145-0.0 W
MO.-7 DAY-8 GMT-21.3
31
32
33
34
35
SALINITY, 0/00

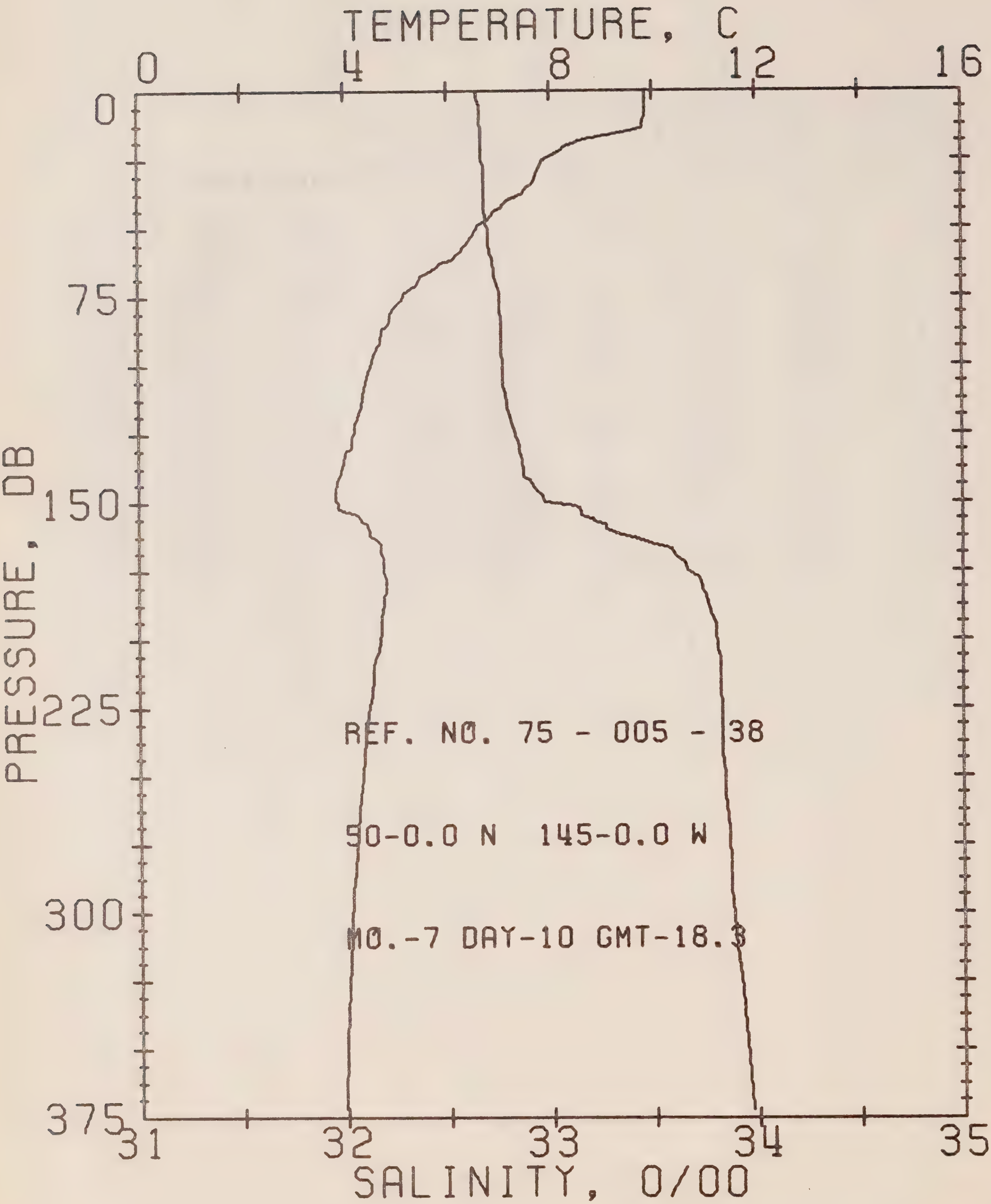
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 36 DATE 8/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 21.3
RESULTS OF STP CAST 181 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.62	32.65	0	25.21	277.2	0.0	0.0	1486.
10	9.33	32.66	10	25.26	272.4	0.28	0.01	1485.
20	8.31	32.66	20	25.42	257.6	0.54	0.05	1481.
30	7.40	32.66	30	25.55	245.3	0.79	0.12	1478.
50	6.63	32.68	50	25.67	234.1	1.27	0.31	1475.
75	5.78	32.70	75	25.79	222.3	1.84	0.68	1472.
100	4.74	32.74	99	25.94	208.4	2.38	1.15	1469.
125	4.35	32.87	124	26.08	194.9	2.88	1.73	1468.
150	4.71	33.43	149	26.49	156.8	3.33	2.36	1470.
175	4.83	33.69	174	26.69	138.5	3.70	2.97	1471.
200	4.63	33.79	199	26.78	129.2	4.04	3.61	1471.
225	4.50	33.81	223	26.81	126.8	4.35	4.30	1471.
250	4.30	33.83	248	26.85	123.6	4.67	5.06	1471.
300	4.08	33.88	298	26.91	118.1	5.27	6.75	1471.
400	3.89	34.01	397	27.03	107.2	6.40	10.76	1472.
500	3.73	34.11	496	27.13	98.2	7.42	15.45	1473.
600	3.53	34.18	595	27.21	91.6	8.37	20.76	1474.
800	3.15	34.30	793	27.34	80.5	10.08	32.90	1475.
1000	2.87	34.36	990	27.41	74.3	11.61	46.97	1478.
1200	2.60	34.43	1188	27.49	66.9	13.02	62.69	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 37
50-0.0 N 145-0.0 W
MO.-7 DAY-9 GMT-17.8
31
32
33
34
35
SALINITY, 0/00

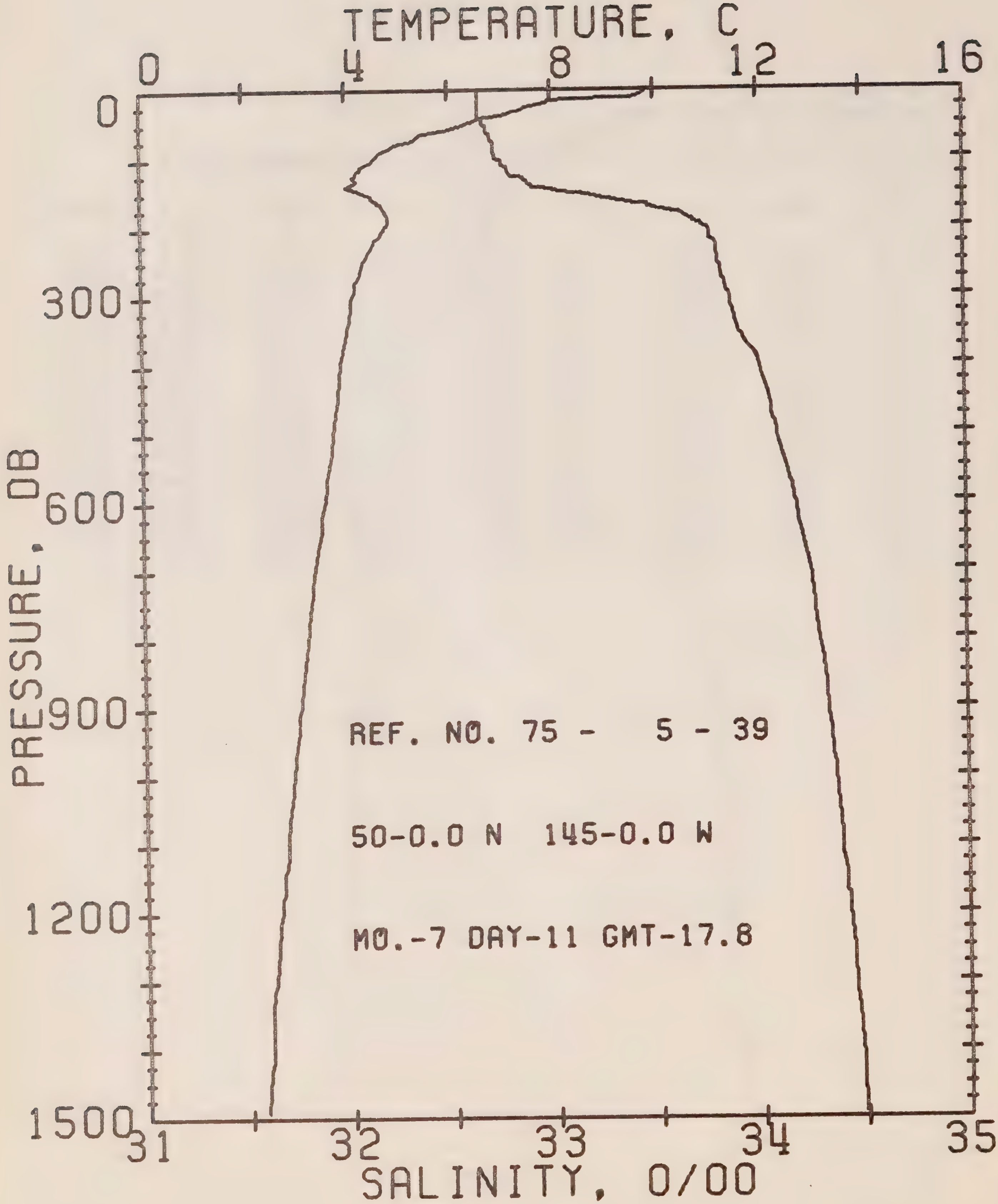
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 37 DATE 9/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.8
RESULTS OF STP CAST 137 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.66	32.65	0	25.20	277.8	0.0	0.0	1486.
10	8.28	32.66	10	25.42	257.0	0.28	0.01	1481.
20	7.65	32.67	20	25.52	247.7	0.53	0.05	1479.
30	7.34	32.67	30	25.56	243.7	0.77	0.11	1478.
50	5.99	32.72	50	25.78	223.4	1.24	0.30	1473.
75	5.04	32.73	75	25.90	212.2	1.78	0.65	1469.
100	4.41	32.77	99	26.00	202.8	2.30	1.11	1467.
125	4.12	32.86	124	26.10	193.4	2.80	1.68	1467.
150	3.96	33.11	149	26.31	173.2	3.26	2.33	1467.
175	4.73	33.53	174	26.57	149.8	3.66	2.99	1471.
200	4.85	33.73	199	26.71	136.4	4.01	3.66	1472.
225	4.56	33.80	223	26.80	128.3	4.35	4.38	1471.
250	4.35	33.83	248	26.84	124.0	4.66	5.14	1471.
300	4.09	33.89	298	26.92	116.8	5.26	6.82	1471.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 38
50-0.0 N 145-0.0 W
MO.-7 DAY-10 GMT-18.3
31
32
33
34
35
SALINITY, 0/00

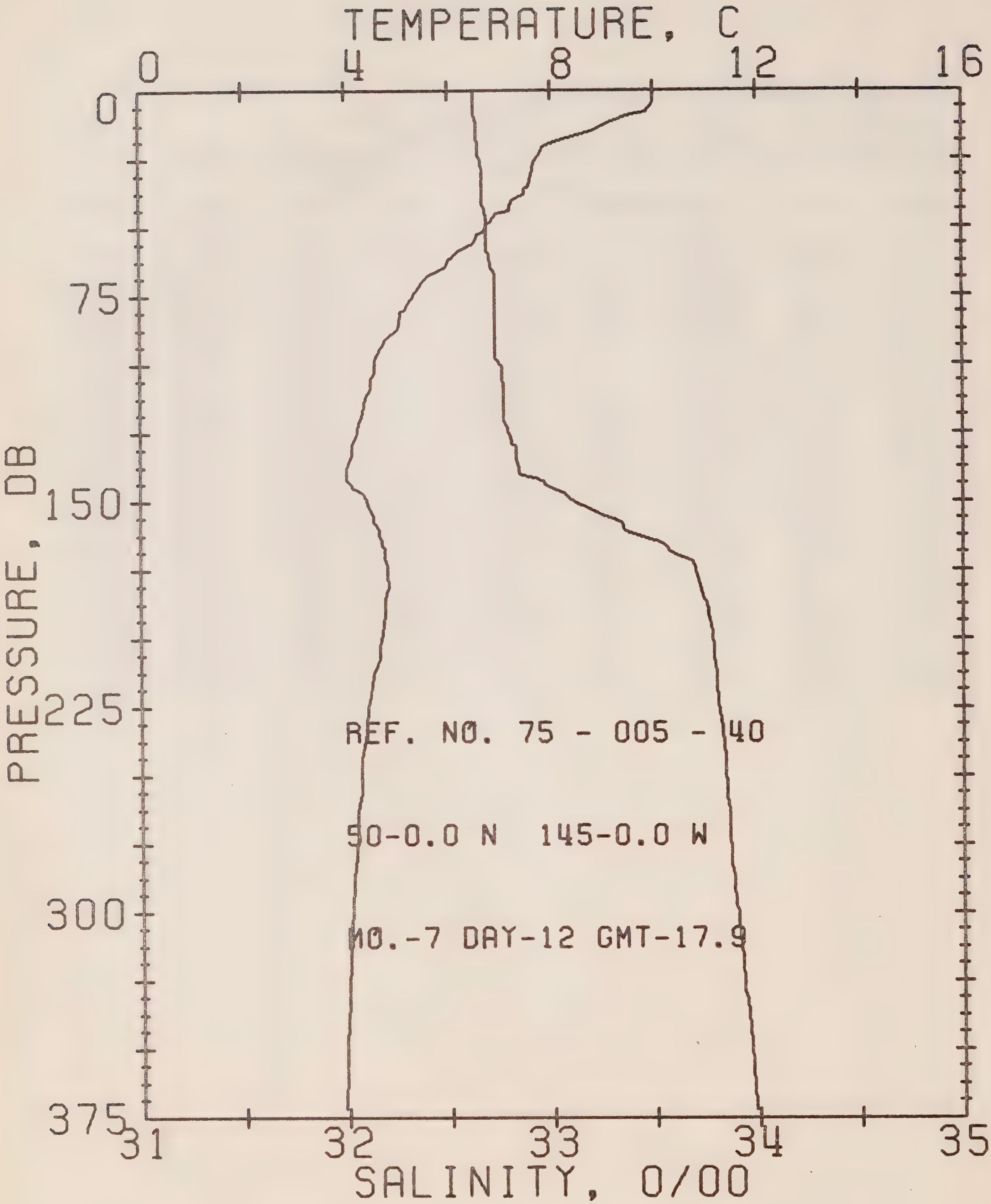
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 38 DATE 10/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.3
RESULTS OF STP CAST 126 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.88	32.64	0	25.15	282.0	0.0	0.0	1487.
10	9.85	32.66	10	25.18	280.4	0.28	0.01	1487.
20	8.37	32.67	20	25.42	257.7	0.55	0.06	1482.
30	7.74	32.68	30	25.52	248.4	0.81	0.12	1479.
50	6.57	32.69	50	25.69	232.3	1.29	0.32	1475.
75	5.13	32.75	75	25.90	211.7	1.85	0.67	1470.
100	4.51	32.77	99	25.99	203.9	2.36	1.13	1468.
125	4.16	32.82	124	26.07	196.4	2.87	1.71	1467.
150	3.86	32.97	149	26.21	182.7	3.34	2.37	1466.
175	4.76	33.66	174	26.67	140.4	3.74	3.02	1471.
200	4.66	33.80	199	26.79	128.8	4.07	3.66	1471.
225	4.45	33.83	223	26.83	124.8	4.38	4.34	1471.
250	4.33	33.84	248	26.85	123.0	4.69	5.09	1471.
300	4.10	33.88	298	26.91	117.9	5.30	6.78	1471.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 39
50-0.0 N 145-0.0 W
MO.-7 DAY-11 GMT-17.8
31
32
33
34
35
SALINITY, 0/00

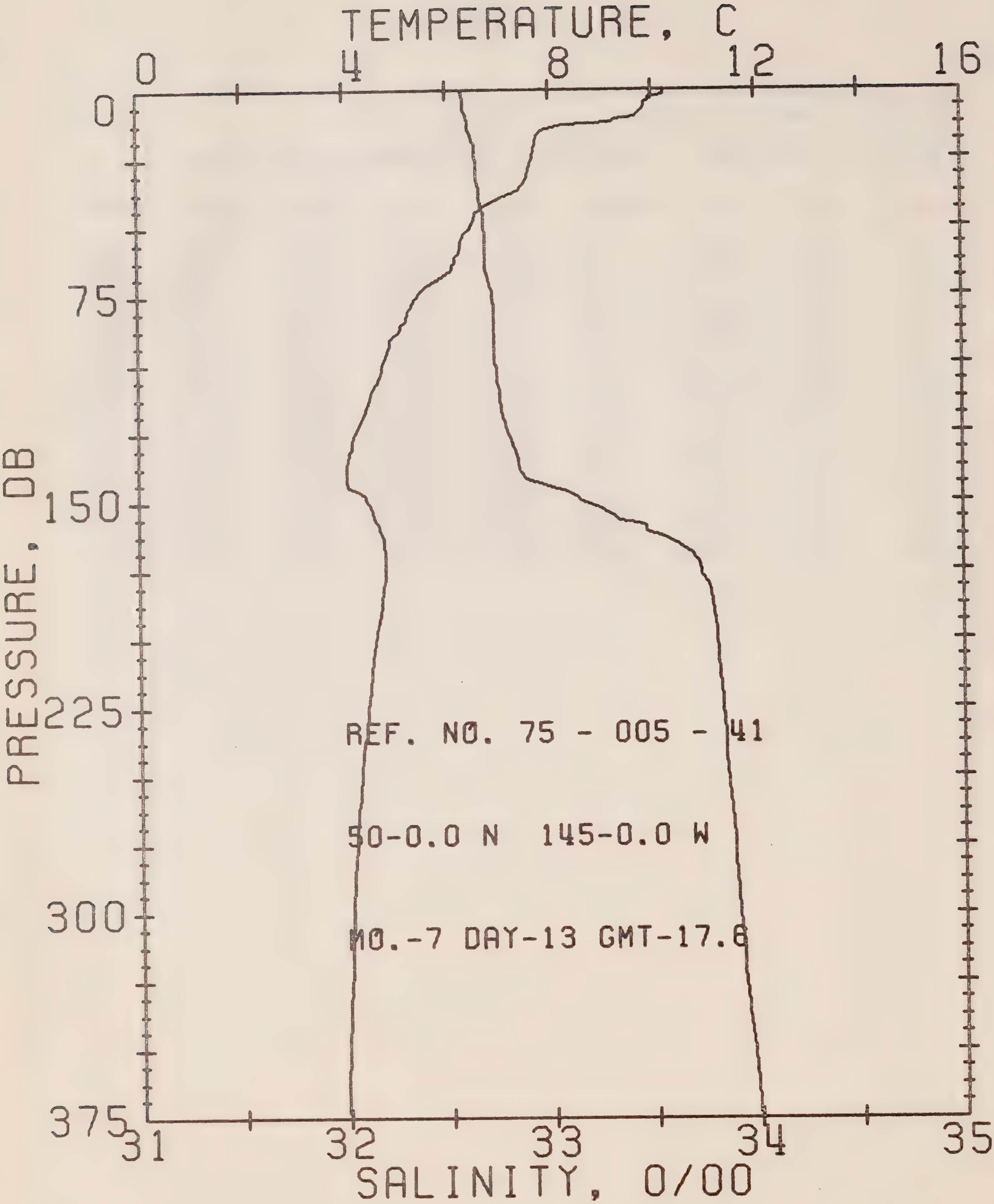
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 39 DATE 11/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.8
RESULTS OF STP CAST 202 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.85	32.64	0	25.16	281.5	0.0	0.0	1487.
10	9.66	32.65	10	25.20	278.2	0.28	0.01	1486.
20	7.84	32.65	20	25.48	251.9	0.54	0.05	1480.
30	7.39	32.65	30	25.54	245.9	0.79	0.12	1478.
50	6.34	32.67	50	25.70	230.9	1.27	0.31	1474.
75	5.26	32.71	75	25.86	215.8	1.82	0.66	1470.
100	4.56	32.74	99	25.96	206.9	2.35	1.13	1468.
125	4.18	32.81	124	26.05	197.7	2.85	1.71	1467.
150	4.34	33.12	149	26.28	176.2	3.33	2.37	1468.
175	4.77	33.58	174	26.60	146.4	3.73	3.04	1471.
200	4.75	33.75	199	26.74	133.6	4.08	3.71	1472.
225	4.52	33.80	223	26.80	128.1	4.41	4.42	1471.
250	4.33	33.81	248	26.83	125.2	4.72	5.18	1471.
300	4.11	33.86	298	26.90	119.4	5.34	6.90	1471.
400	3.88	34.00	397	27.03	107.4	6.48	10.97	1472.
500	3.72	34.09	496	27.12	100.0	7.51	15.71	1473.
600	3.53	34.17	595	27.20	92.4	8.48	21.09	1474.
800	3.19	34.29	793	27.32	81.7	10.20	33.39	1476.
1000	2.86	34.36	990	27.41	73.9	11.76	47.60	1478.
1200	2.60	34.42	1188	27.48	67.9	13.18	63.51	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 40
50-0.0 N 145-0.0 W
MO.-7 DAY-12 GMT-17.9
31
32
33
34
35
SALINITY, 0/00

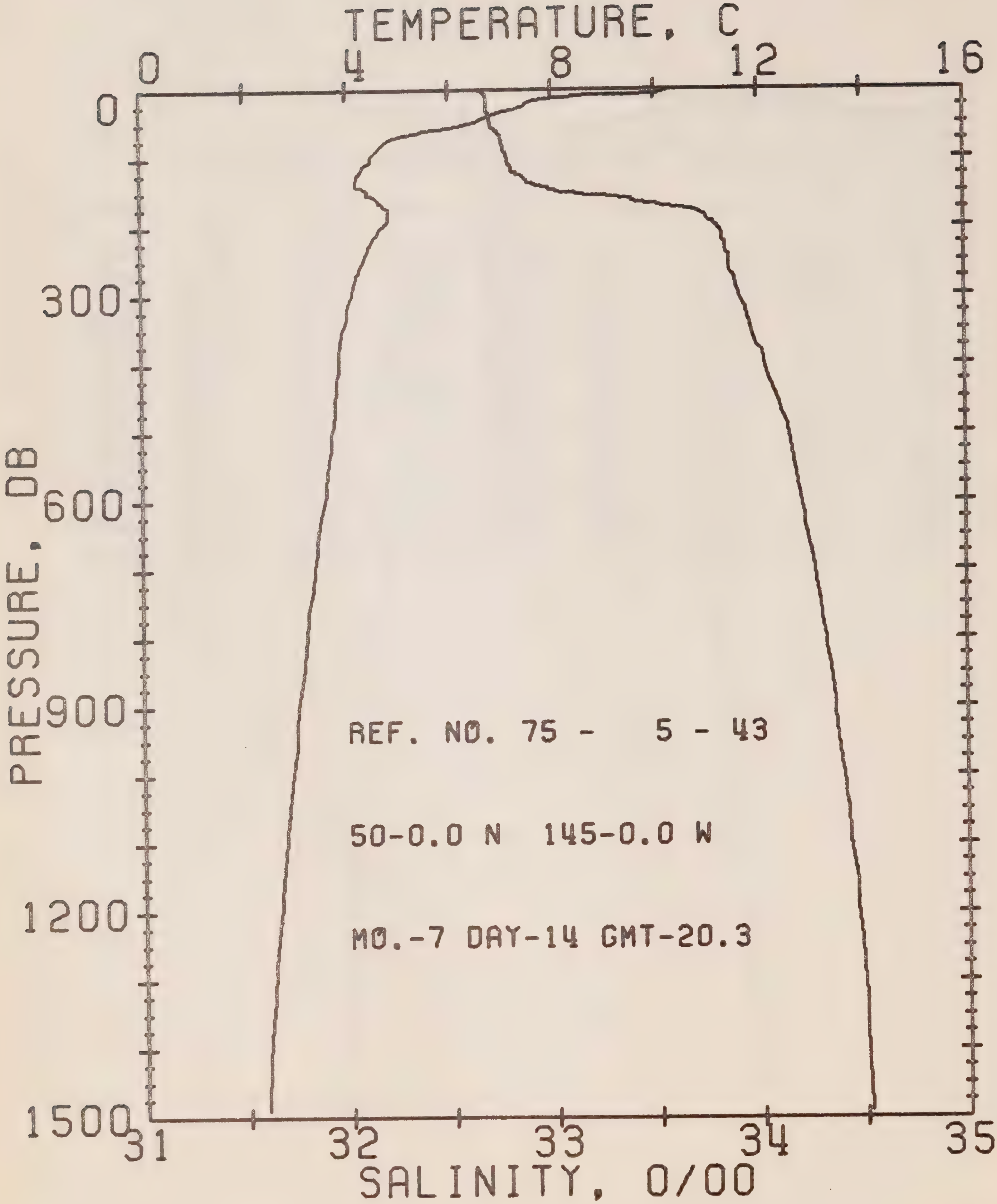
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 40 DATE 12/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.9
RESULTS OF STP CAST 136 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.02	32.63	0	25.12	284.9	0.0	0.0	1487.
10	9.42	32.63	10	25.22	275.8	0.28	0.01	1485.
20	7.91	32.65	20	25.47	252.8	0.55	0.05	1480.
30	7.64	32.67	30	25.52	247.9	0.80	0.12	1479.
50	6.73	32.69	50	25.66	234.6	1.28	0.32	1476.
75	5.30	32.73	75	25.87	215.0	1.84	0.67	1470.
100	4.56	32.75	99	25.97	205.9	2.37	1.14	1468.
125	4.21	32.79	124	26.03	199.4	2.88	1.72	1467.
150	4.41	33.11	149	26.27	177.8	3.36	2.39	1469.
175	4.81	33.70	174	26.69	137.9	3.75	3.03	1471.
200	4.67	33.78	199	26.77	130.7	4.08	3.67	1471.
225	4.40	33.81	223	26.82	125.6	4.40	4.37	1471.
250	4.27	33.84	248	26.86	122.1	4.71	5.12	1471.
300	4.08	33.90	298	26.93	116.3	5.31	6.79	1471.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 41
50-0.0 N 145-0.0 W
MO.-7 DAY-13 GMT-17.6
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 41 DATE 13/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.6
RESULTS OF STP CAST 125 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.23	32.57	0	25.04	292.7	0.0	0.0	1488.
10	9.69	32.60	10	25.16	282.4	0.29	0.01	1486.
20	7.73	32.64	20	25.49	251.0	0.55	0.05	1479.
30	7.59	32.65	30	25.51	248.5	0.80	0.12	1479.
50	6.46	32.68	50	25.69	232.0	1.28	0.31	1475.
75	5.43	32.72	75	25.85	217.2	1.84	0.67	1471.
100	4.73	32.73	99	25.93	209.1	2.37	1.15	1468.
125	4.19	32.79	124	26.04	199.3	2.89	1.73	1467.
150	4.44	33.15	149	26.30	175.0	3.36	2.40	1469.
175	4.77	33.72	174	26.72	135.6	3.74	3.02	1471.
200	4.56	33.80	199	26.80	127.8	4.07	3.65	1471.
225	4.39	33.83	223	26.84	124.1	4.38	4.33	1471.
250	4.25	33.85	248	26.87	121.2	4.69	5.07	1470.
300	4.09	33.90	298	26.93	116.4	5.28	6.73	1471.


TEMPERATURE, C
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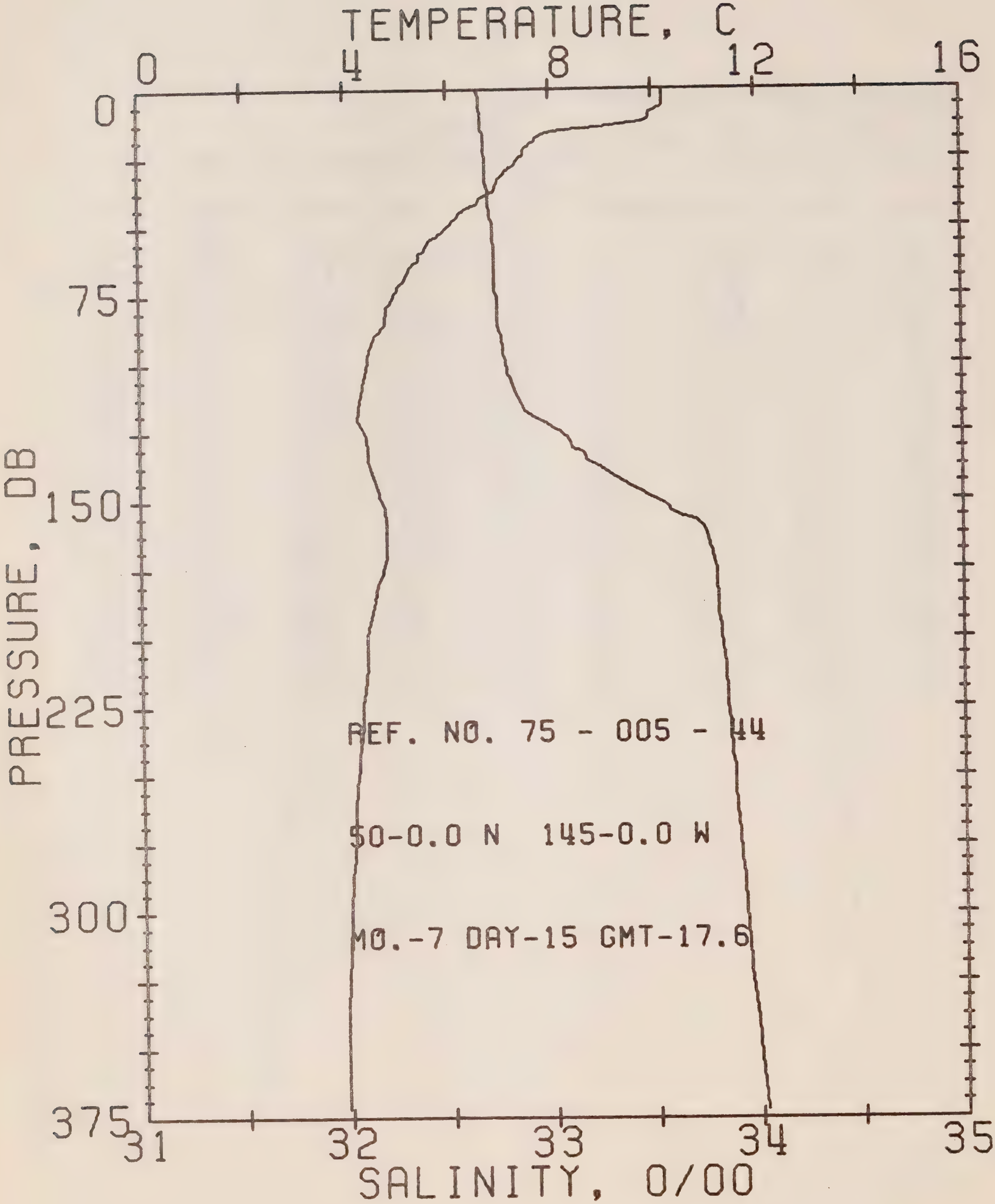
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 43
50-0.0 N 145-0.0 W
MO.-7 DAY-14 GMT-20.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 43 DATE 14/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 20.3
RESULTS OF STP CAST 194 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.31	32.63	0	25.08	289.5	0.0	0.0	1488.
10	8.43	32.68	10	25.41	257.6	0.28	0.01	1482.
20	7.51	32.69	20	25.56	244.3	0.53	0.05	1478.
30	7.19	32.69	30	25.60	240.2	0.77	0.11	1477.
50	6.40	32.71	50	25.72	229.0	1.24	0.30	1474.
75	4.79	32.76	75	25.95	207.2	1.78	0.65	1468.
100	4.48	32.79	99	26.00	202.3	2.29	1.10	1468.
125	4.21	32.85	124	26.09	194.6	2.79	1.68	1467.
150	4.39	33.07	149	26.24	180.5	3.27	2.34	1468.
175	4.83	33.68	174	26.68	139.3	3.66	2.99	1471.
200	4.72	33.81	199	26.79	129.0	3.99	3.63	1472.
225	4.47	33.84	223	26.84	124.2	4.31	4.31	1471.
250	4.32	33.86	248	26.87	121.3	4.62	5.05	1471.
300	4.08	33.91	298	26.94	115.6	5.21	6.72	1471.
400	3.84	34.03	397	27.06	104.7	6.31	10.63	1471.
500	3.69	34.15	496	27.16	95.4	7.31	15.21	1473.
600	3.53	34.21	595	27.23	90.0	8.24	20.41	1474.
800	3.18	34.32	793	27.35	79.2	9.92	32.41	1476.
1000	2.87	34.40	990	27.44	71.1	11.43	46.18	1478.
1200	2.62	34.46	1188	27.52	64.9	12.78	61.35	1480.


TEMPERATURE, C
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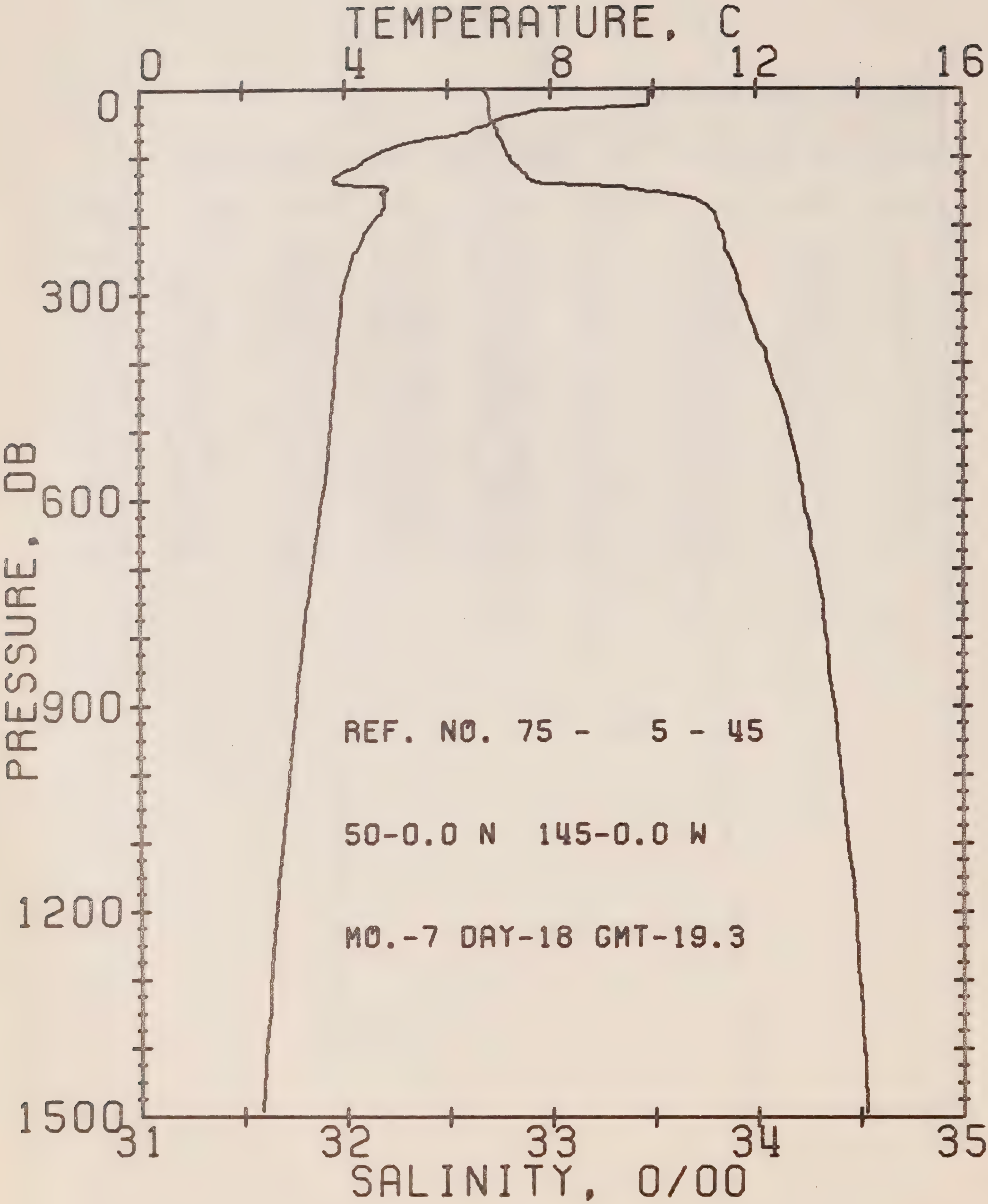
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 44
50-0.0 N 145-0.0 W
MO.-7 DAY-15 GMT-17.6
31
32
33
34
35
SALINITY, 0/00

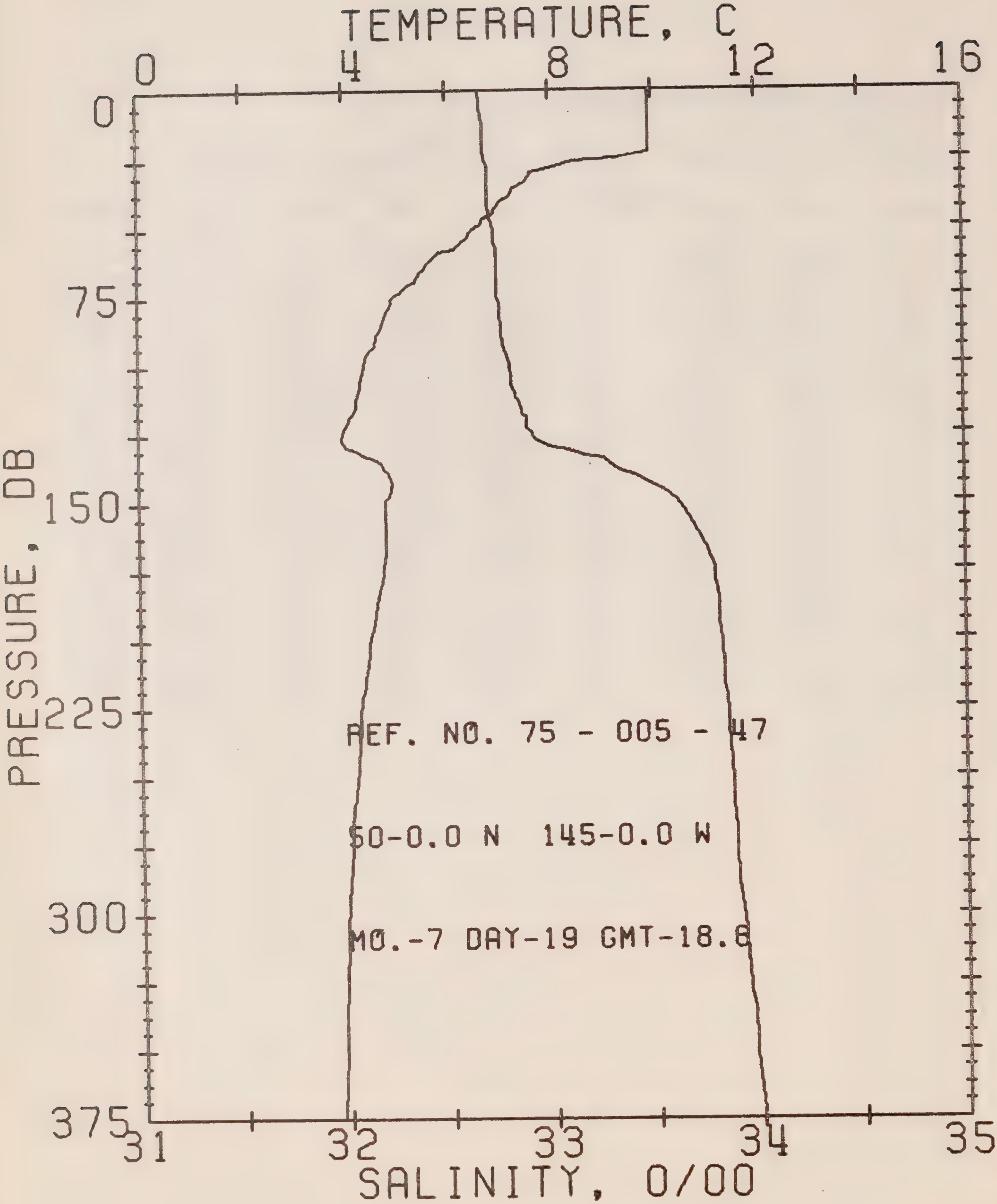
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 44   DATE 15/ 7/75
POSITION 50- 0.0N, 145- 0.0W   GMT 17.6
RESULTS OF STP CAST   123 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.20	32.65	0	25.11	286.3	0.0	0.0	1488.
10	9.96	32.67	10	25.17	281.4	0.28	0.01	1487.
20	7.62	32.68	20	25.53	246.6	0.55	0.05	1479.
30	7.11	32.69	30	25.61	239.2	0.79	0.12	1477.
50	6.01	32.72	50	25.78	223.6	1.25	0.30	1473.
75	4.94	32.73	75	25.91	210.7	1.79	0.65	1469.
100	4.41	32.78	99	26.01	201.9	2.31	1.11	1467.
125	4.38	33.05	124	26.22	181.7	2.80	1.67	1468.
150	4.69	33.52	149	26.56	149.9	3.22	2.25	1470.
175	4.69	33.80	174	26.78	129.1	3.56	2.82	1471.
200	4.38	33.82	199	26.84	124.3	3.88	3.42	1470.
225	4.28	33.85	223	26.87	121.3	4.18	4.09	1470.
250	4.15	33.88	248	26.90	118.2	4.48	4.81	1470.
300	4.01	33.93	298	26.96	113.1	5.06	6.43	1470.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 45
50-0.0 N 145-0.0 W
MO.-7 DAY-18 GMT-19.3
31
32
33
34
35
SALINITY, 0/00

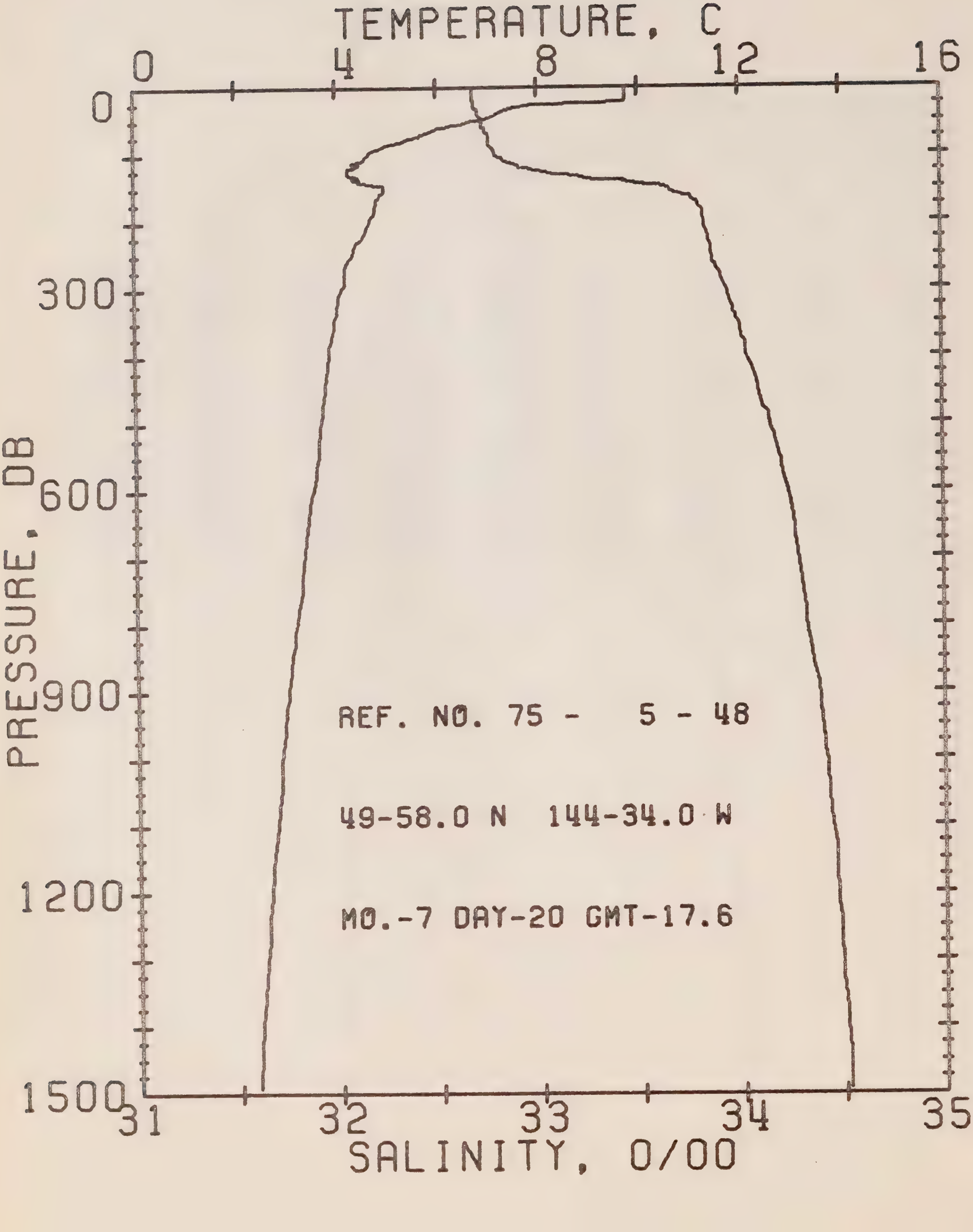
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 45 DATE 18/ 7/75
POSITION 50- 0.0N. 145- 0.0W GMT 19.3
RESULTS OF STP CAST 161 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.93	32.67	0	25.17	280.5	0.0	0.0	1487.
10	9.93	32.69	10	25.19	279.2	0.28	0.01	1487.
20	9.93	32.70	20	25.19	278.9	0.56	0.06	1488.
30	7.83	32.70	30	25.52	248.1	0.83	0.13	1480.
50	6.83	32.73	50	25.68	232.9	1.31	0.32	1476.
75	5.46	32.76	75	25.87	214.5	1.87	0.68	1471.
100	4.52	32.80	99	26.01	201.6	2.39	1.14	1468.
125	3.90	32.88	124	26.14	189.7	2.88	1.70	1466.
150	4.76	33.50	149	26.54	152.2	3.32	2.31	1470.
175	4.76	33.78	174	26.76	131.4	3.66	2.88	1471.
200	4.48	33.82	199	26.82	125.6	3.98	3.49	1471.
225	4.31	33.85	223	26.87	121.7	4.29	4.16	1470.
250	4.12	33.88	248	26.91	118.1	4.59	4.89	1470.
300	3.93	33.93	298	26.97	112.7	5.17	6.50	1470.
400	3.80	34.05	397	27.08	102.8	6.24	10.34	1471.
500	3.69	34.16	496	27.18	94.3	7.23	14.83	1473.
600	3.52	34.23	595	27.24	88.4	8.14	19.95	1474.
800	3.16	34.34	793	27.37	77.9	9.79	31.70	1475.
1000	2.88	34.41	990	27.45	70.7	11.28	45.29	1478.
1200	2.62	34.48	1188	27.53	64.0	12.62	60.39	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 47
50-0.0 N 145-0.0 W
MO.-7 DAY-19 GMT-18.6
31
32
33
34
35
SALINITY, 0/00

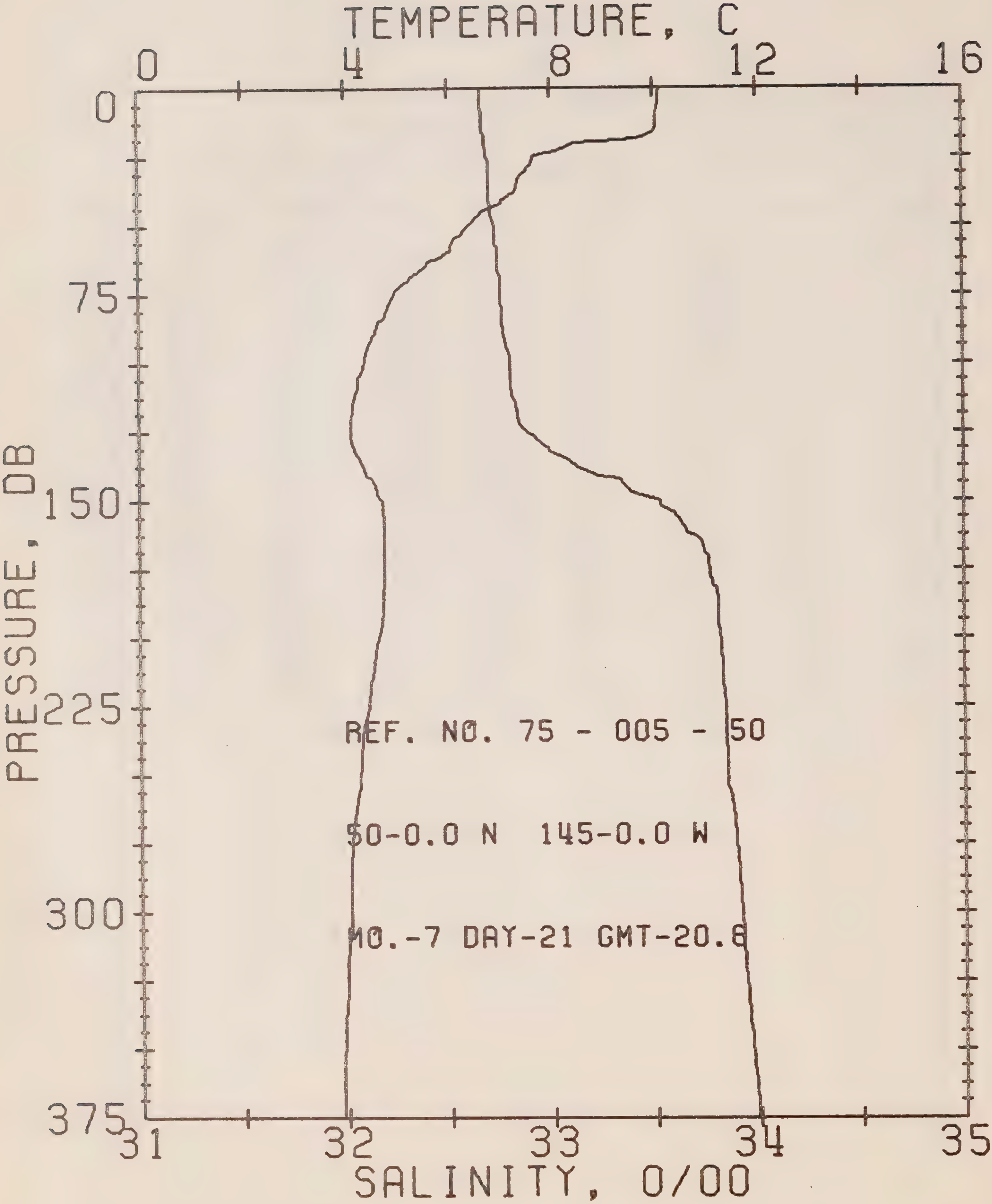
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 47 DATE 19/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.6
RESULTS OF STP CAST 117 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.94	32.66	0	25.16	281.5	0.0	0.0	1487.
10	9.94	32.67	10	25.17	280.7	0.28	0.01	1487.
20	9.94	32.68	20	25.18	280.5	0.56	0.06	1488.
30	7.63	32.70	30	25.55	245.4	0.83	0.12	1479.
50	6.57	32.72	50	25.71	230.4	1.30	0.32	1475.
75	4.96	32.74	75	25.92	210.5	1.85	0.67	1469.
100	4.38	32.80	99	26.02	200.2	2.37	1.13	1467.
125	3.94	32.91	124	26.16	187.8	2.86	1.69	1466.
150	4.77	33.61	149	26.62	144.0	3.27	2.26	1471.
175	4.71	33.79	174	26.77	130.1	3.61	2.83	1471.
200	4.45	33.82	199	26.82	125.4	3.93	3.44	1470.
225	4.26	33.85	223	26.87	121.6	4.24	4.11	1470.
250	4.17	33.87	248	26.89	119.3	4.54	4.84	1470.
300	3.97	33.91	298	26.95	114.5	5.13	6.48	1470.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 48
49-58.0 N 144-34.0 W
MO.-7 DAY-20 GMT-17.6
31
32
33
34
35
SALINITY, 0/00

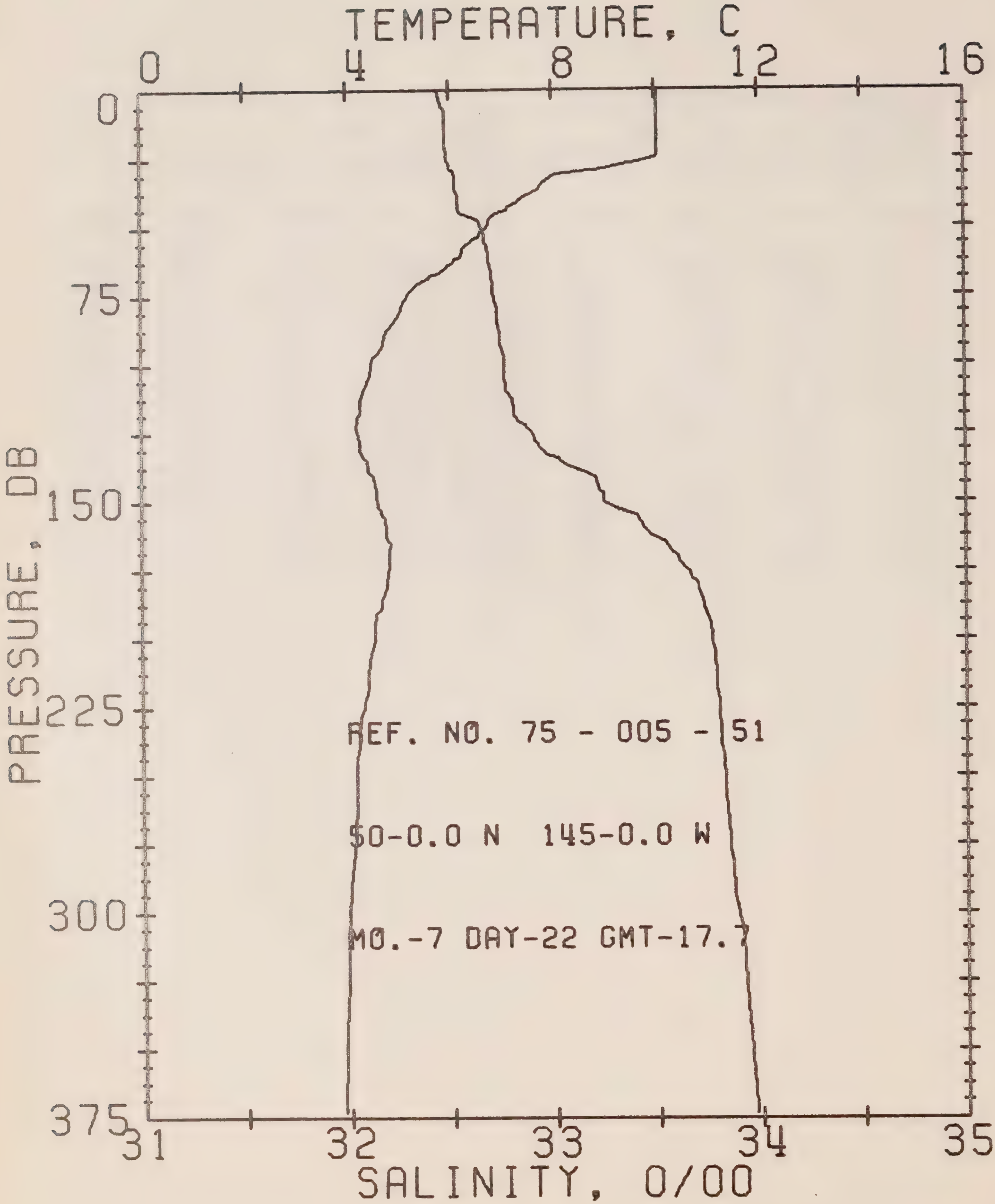
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 48 DATE 20/ 7/75
POSITION 49-58.0N, 144-34.0W GMT 17.6
RESULTS OF STP CAST 205 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.82	32.68	0	25.20	278.1	0.0	0.0	1487.
10	9.76	32.68	10	25.21	277.5	0.28	0.01	1487.
20	9.74	32.68	20	25.21	277.1	0.56	0.06	1487.
30	7.53	32.69	30	25.56	244.4	0.81	0.12	1479.
50	6.73	32.72	50	25.69	232.4	1.29	0.32	1476.
75	5.49	32.76	75	25.87	214.9	1.85	0.67	1471.
100	4.63	32.79	99	25.99	203.5	2.37	1.14	1468.
125	4.24	33.03	124	26.22	181.8	2.86	1.69	1467.
150	4.96	33.65	149	26.64	143.1	3.26	2.26	1471.
175	4.78	33.80	174	26.77	130.4	3.60	2.82	1471.
200	4.67	33.83	199	26.81	127.2	3.92	3.43	1471.
225	4.48	33.85	223	26.85	123.7	4.24	4.11	1471.
250	4.32	33.86	248	26.87	121.4	4.54	4.85	1471.
300	4.10	33.93	298	26.95	114.1	5.13	6.50	1471.
400	3.83	34.03	397	27.06	104.8	6.22	10.37	1471.
500	3.67	34.15	496	27.16	95.3	7.22	14.94	1472.
600	3.50	34.23	595	27.25	88.0	8.13	20.07	1474.
800	3.16	34.32	793	27.36	78.7	9.79	31.85	1475.
1000	2.85	34.42	990	27.46	69.7	11.26	45.33	1478.
1200	2.63	34.47	1188	27.52	64.7	12.60	60.35	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 50
50-0.0 N 145-0.0 W
MO.-7 DAY-21 GMT-20.6
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 50 DATE 21/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 20.6
RESULTS OF STP CAST 122 POINTS TAKEN FROM ANALOG TRACE

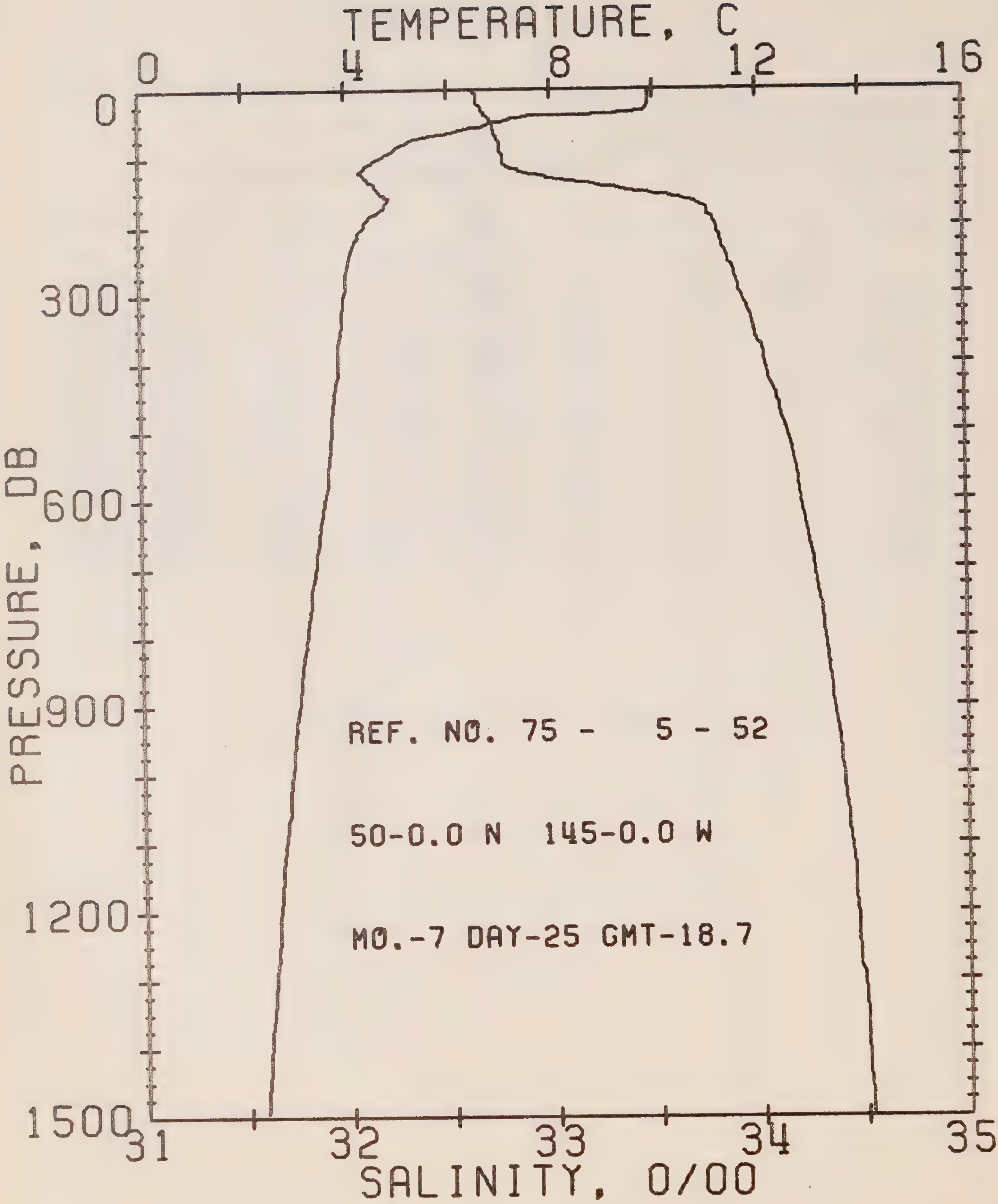
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.12	32.66	0	25.13	284.3	0.0	0.0	1488.
10	10.06	32.67	10	25.15	282.9	0.28	0.01	1488.
20	8.45	32.68	20	25.41	258.0	0.56	0.06	1482.
30	7.51	32.70	30	25.56	243.7	0.81	0.12	1479.
50	6.40	32.72	50	25.73	228.0	1.29	0.31	1474.
75	4.94	32.75	75	25.93	209.5	1.83	0.66	1469.
100	4.35	32.80	99	26.03	199.9	2.35	1.12	1467.
125	4.11	32.88	124	26.12	191.7	2.84	1.68	1467.
150	4.72	33.53	149	26.57	149.4	3.27	2.29	1470.
175	4.75	33.77	174	26.75	132.4	3.62	2.86	1471.
200	4.63	33.82	199	26.80	127.4	3.94	3.48	1471.
225	4.43	33.84	223	26.84	123.9	4.26	4.16	1471.
250	4.25	33.85	248	26.87	121.4	4.56	4.90	1470.
300	4.05	33.91	298	26.94	115.0	5.15	6.54	1470.



TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 51
50-0.0 N 145-0.0 W
MO.-7 DAY-22 GMT-17.7
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 51 DATE 22/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.7
RESULTS OF STP CAST 133 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.04	32.44	0	24.97	299.3	0.0	0.0	1487.
10	10.04	32.48	10	25.00	296.7	0.30	0.02	1487.
20	10.04	32.48	20	25.00	296.9	0.59	0.06	1488.
30	8.51	32.52	30	25.28	271.0	0.89	0.13	1482.
50	6.72	32.65	50	25.63	237.5	1.39	0.34	1476.
75	5.17	32.71	75	25.87	214.9	1.96	0.70	1470.
100	4.45	32.76	99	25.99	203.9	2.48	1.16	1467.
125	4.20	32.89	124	26.11	191.9	2.98	1.74	1467.
150	4.58	33.24	149	26.35	169.7	3.43	2.36	1469.
175	4.79	33.65	174	26.65	141.7	3.81	3.00	1471.
200	4.51	33.77	199	26.78	129.7	4.15	3.64	1471.
225	4.29	33.80	223	26.83	125.3	4.47	4.33	1470.
250	4.12	33.83	248	26.87	121.8	4.78	5.08	1470.
300	3.97	33.89	298	26.93	116.2	5.37	6.75	1470.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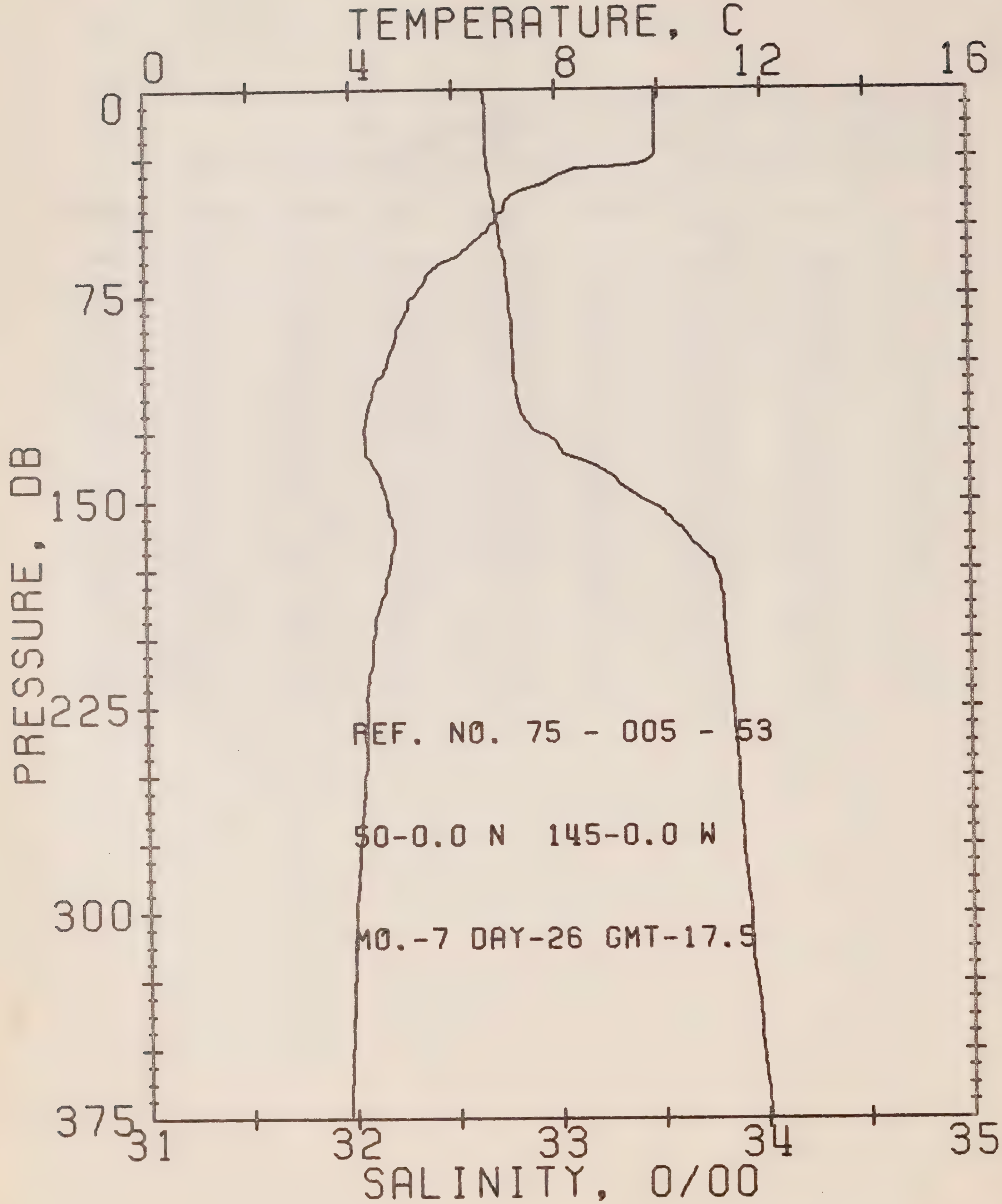
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 52
50-0.0 N 145-0.0 W
MO.-7 DAY-25 GMT-18.7
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 52 DATE 25/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.7
RESULTS OF STP CAST 184 POINTS TAKEN FROM ANALCG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.93	32.62	0	25.13	284.3	0.0	0.0	1487.
10	9.93	32.64	10	25.15	283.1	0.28	0.01	1487.
20	9.92	32.65	20	25.15	282.6	0.57	0.06	1487.
30	9.83	32.67	30	25.19	279.7	0.85	0.13	1487.
50	6.80	32.72	50	25.68	233.3	1.35	0.33	1476.
75	5.26	32.74	75	25.88	213.7	1.91	0.69	1470.
100	4.70	32.77	99	25.97	205.8	2.43	1.16	1468.
125	4.35	32.94	124	26.14	189.6	2.94	1.73	1468.
150	4.67	33.45	149	26.51	154.9	3.37	2.33	1470.
175	4.72	33.75	174	26.74	132.9	3.72	2.92	1471.
200	4.35	33.80	199	26.82	125.8	4.04	3.53	1470.
225	4.16	33.83	223	26.86	122.0	4.35	4.20	1470.
250	4.05	33.86	248	26.90	118.7	4.65	4.93	1470.
300	3.97	33.92	298	26.95	113.8	5.23	6.55	1470.
400	3.83	34.03	397	27.06	104.6	6.32	10.42	1471.
500	3.70	34.14	496	27.16	96.2	7.32	15.02	1473.
600	3.55	34.20	595	27.22	90.7	8.25	20.24	1474.
800	3.18	34.32	793	27.35	79.6	9.95	32.29	1476.
1000	2.88	34.40	990	27.44	71.4	11.46	46.09	1478.
1200	2.60	34.46	1188	27.51	65.2	12.82	61.34	1480.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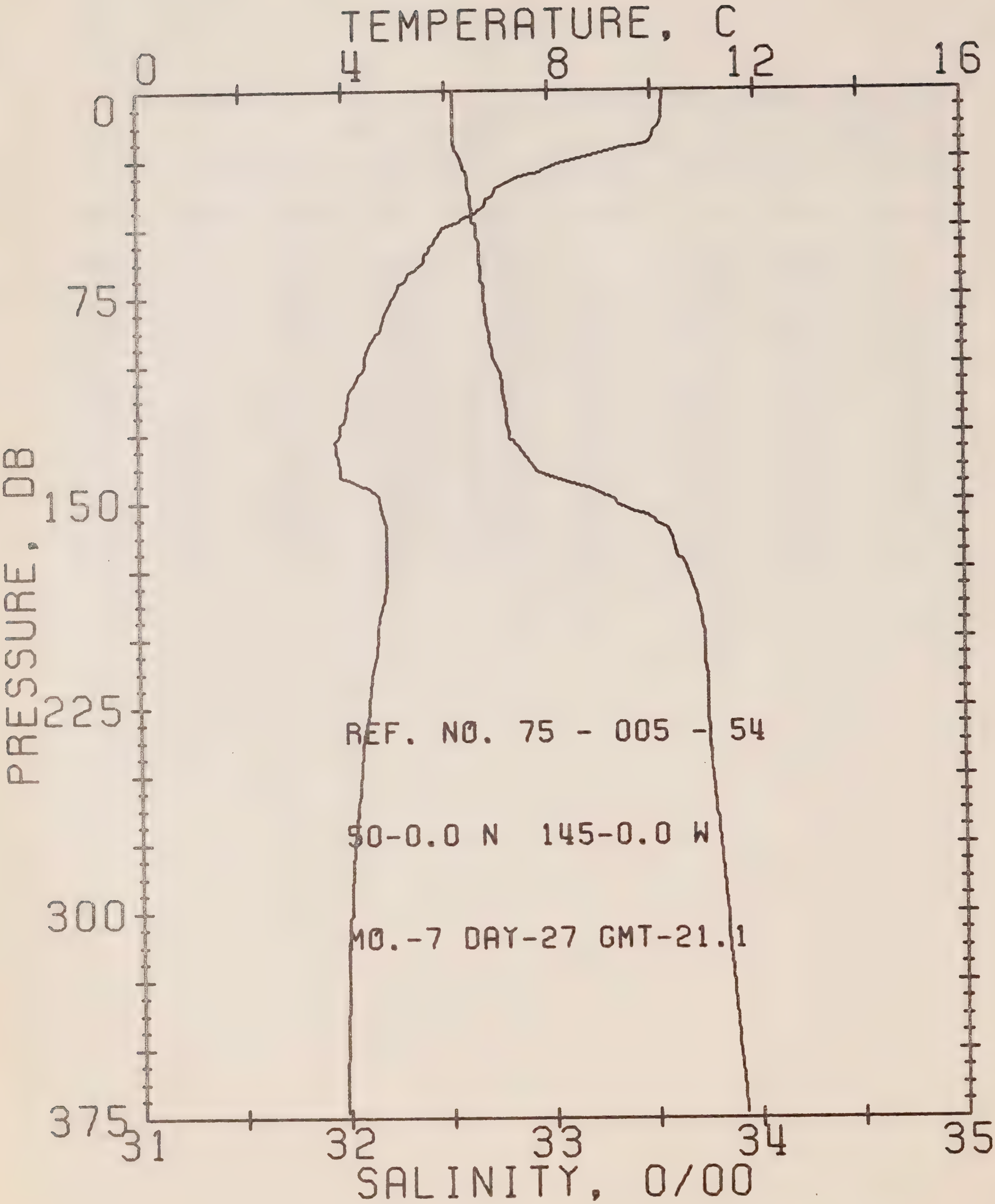
8
12
16
PRESSURE, DB
0
75
150
225
300
375
REF. NO. 75 - 005 - 53
50-0.0 N 145-0.0 W
MO.-7 DAY-26 GMT-17.5
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 53 DATE 26/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.5
RESULTS OF STP CAST 122 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.95	32.65	0	25.15	282.4	0.0	0.0	1487.
10	9.95	32.66	10	25.16	282.0	0.28	0.01	1487.
20	9.94	32.66	20	25.16	282.0	0.56	0.06	1488.
30	8.26	32.67	30	25.43	256.0	0.84	0.13	1481.
50	6.68	32.72	50	25.69	231.8	1.32	0.32	1476.
75	5.25	32.77	75	25.91	211.5	1.88	0.67	1470.
100	4.71	32.79	99	25.98	204.4	2.39	1.14	1468.
125	4.25	32.90	124	26.12	191.6	2.89	1.71	1467.
150	4.69	33.42	149	26.48	157.4	3.33	2.31	1470.
175	4.71	33.76	174	26.75	132.1	3.69	2.91	1471.
200	4.37	33.81	199	26.83	125.2	4.01	3.52	1470.
225	4.28	33.84	223	26.86	122.0	4.31	4.19	1470.
250	4.20	33.87	248	26.89	119.4	4.62	4.92	1470.
300	4.01	33.92	298	26.95	114.1	5.20	6.55	1470.


TEMPERATURE, C
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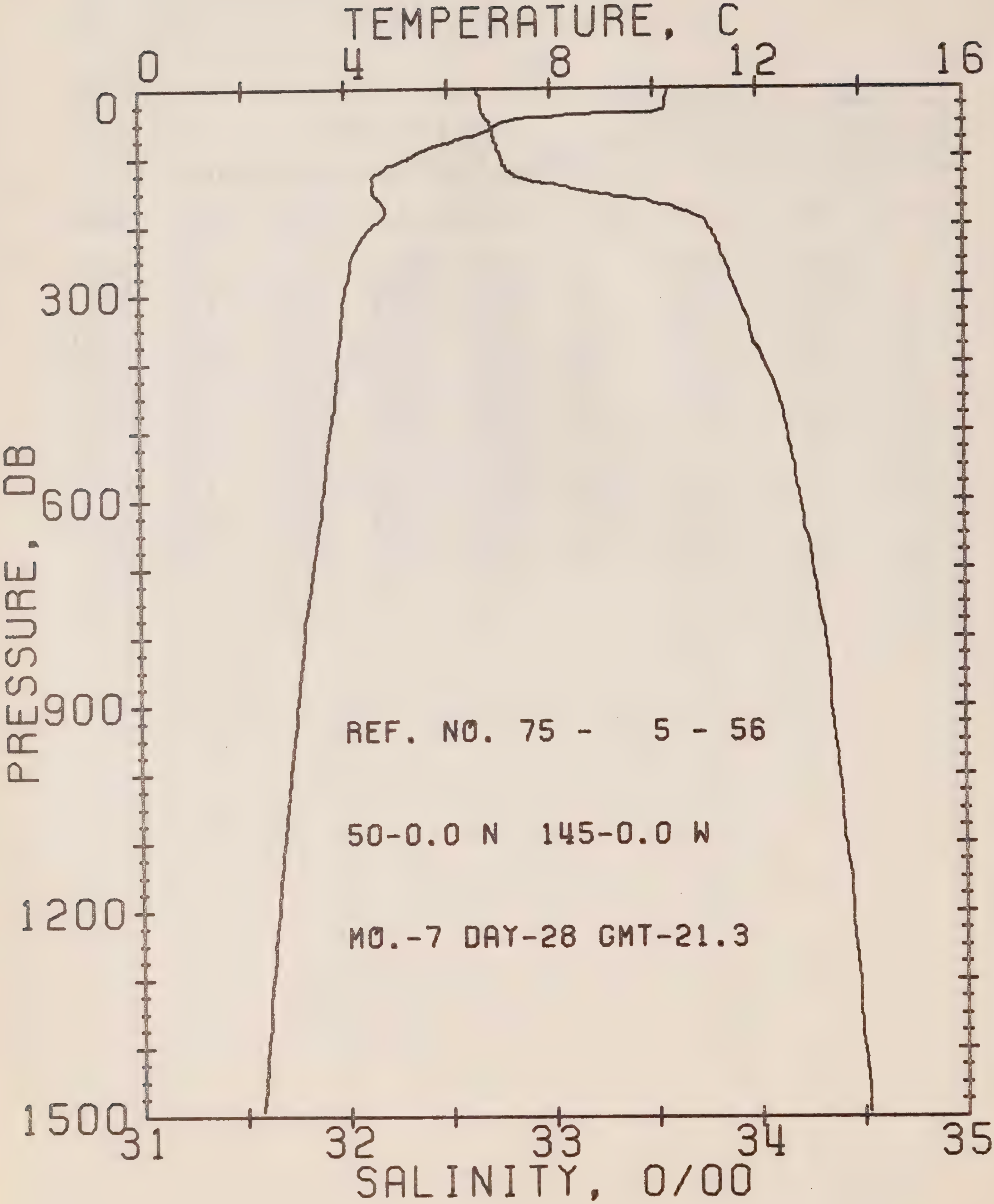
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 54
50-0.0 N 145-0.0 W
MO.-7 DAY-27 GMT-21.1
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 54 DATE 27/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 21.1
RESULTS OF STP CAST 135 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.24	32.54	0	25.02	295.1	0.0	0.0	1488.
10	10.20	32.54	10	25.02	294.8	0.29	0.02	1488.
20	9.87	32.54	20	25.08	289.8	0.59	0.06	1487.
30	7.84	32.60	30	25.44	255.6	0.86	0.13	1480.
50	5.96	32.65	50	25.73	228.3	1.34	0.32	1473.
75	4.97	32.68	75	25.87	215.2	1.89	0.68	1469.
100	4.41	32.73	99	25.97	205.6	2.42	1.14	1467.
125	3.91	32.80	124	26.07	195.8	2.92	1.72	1466.
150	4.67	33.31	149	26.40	165.5	3.38	2.36	1470.
175	4.80	33.65	174	26.66	141.2	3.75	2.98	1471.
200	4.61	33.74	199	26.75	133.0	4.09	3.63	1471.
225	4.43	33.75	223	26.77	130.6	4.42	4.34	1471.
250	4.27	33.77	248	26.81	127.2	4.74	5.12	1470.
300	4.05	33.84	298	26.88	120.6	5.36	6.85	1470.


TEMPERATURE, C
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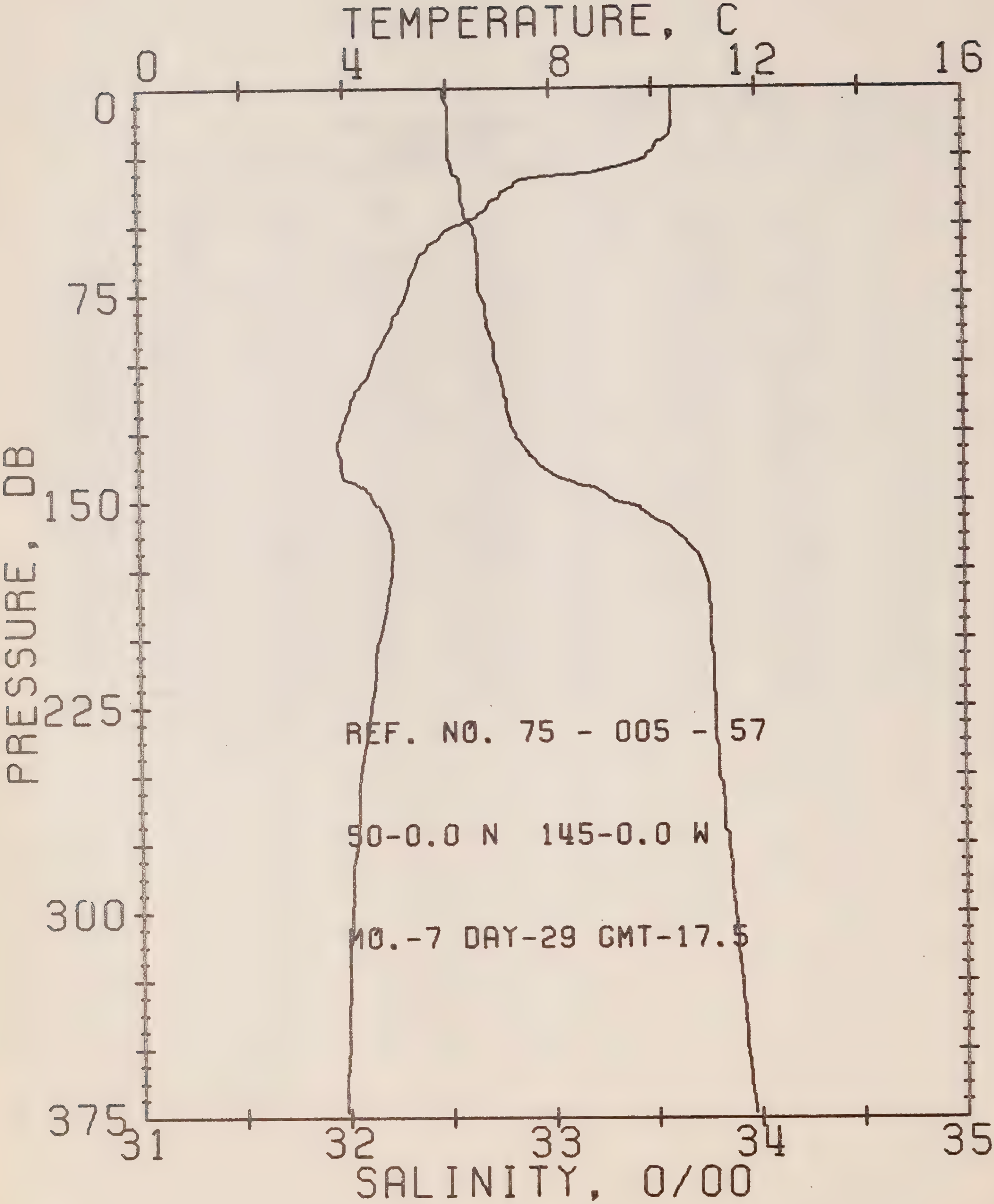
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 56
50-0.0 N 145-0.0 W
MO.-7 DAY-28 GMT-21.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 56 DATE 28/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 21.3
RESULTS OF STP CAST 208 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.30	32.65	0	25.09	287.9	0.0	0.0	1488.
10	10.26	32.66	10	25.11	286.9	0.29	0.01	1489.
20	10.25	32.66	20	25.11	287.0	0.57	0.06	1489.
30	10.21	32.66	30	25.12	286.1	0.86	0.13	1489.
50	7.04	32.71	50	25.64	237.1	1.38	0.34	1477.
75	6.15	32.73	75	25.77	224.9	1.96	0.71	1474.
100	5.26	32.76	99	25.90	212.5	2.50	1.19	1471.
125	4.60	32.82	124	26.02	200.9	3.02	1.79	1469.
150	4.55	33.19	149	26.31	173.4	3.49	2.45	1469.
175	4.80	33.61	174	26.62	144.6	3.89	3.10	1471.
200	4.53	33.76	199	26.77	130.6	4.23	3.75	1471.
225	4.29	33.81	223	26.84	124.5	4.54	4.44	1470.
250	4.10	33.84	248	26.88	120.2	4.85	5.18	1470.
300	3.99	33.90	298	26.94	115.1	5.44	6.83	1470.
400	3.85	34.04	397	27.06	104.5	6.54	10.73	1471.
500	3.70	34.14	496	27.16	95.6	7.53	15.29	1473.
600	3.53	34.21	595	27.23	89.8	8.46	20.49	1474.
800	3.16	34.32	793	27.35	78.9	10.15	32.50	1475.
1000	2.89	34.39	990	27.43	72.2	11.66	46.35	1478.
1200	2.63	34.45	1188	27.50	66.0	13.05	61.84	1480.


TEMPERATURE, C
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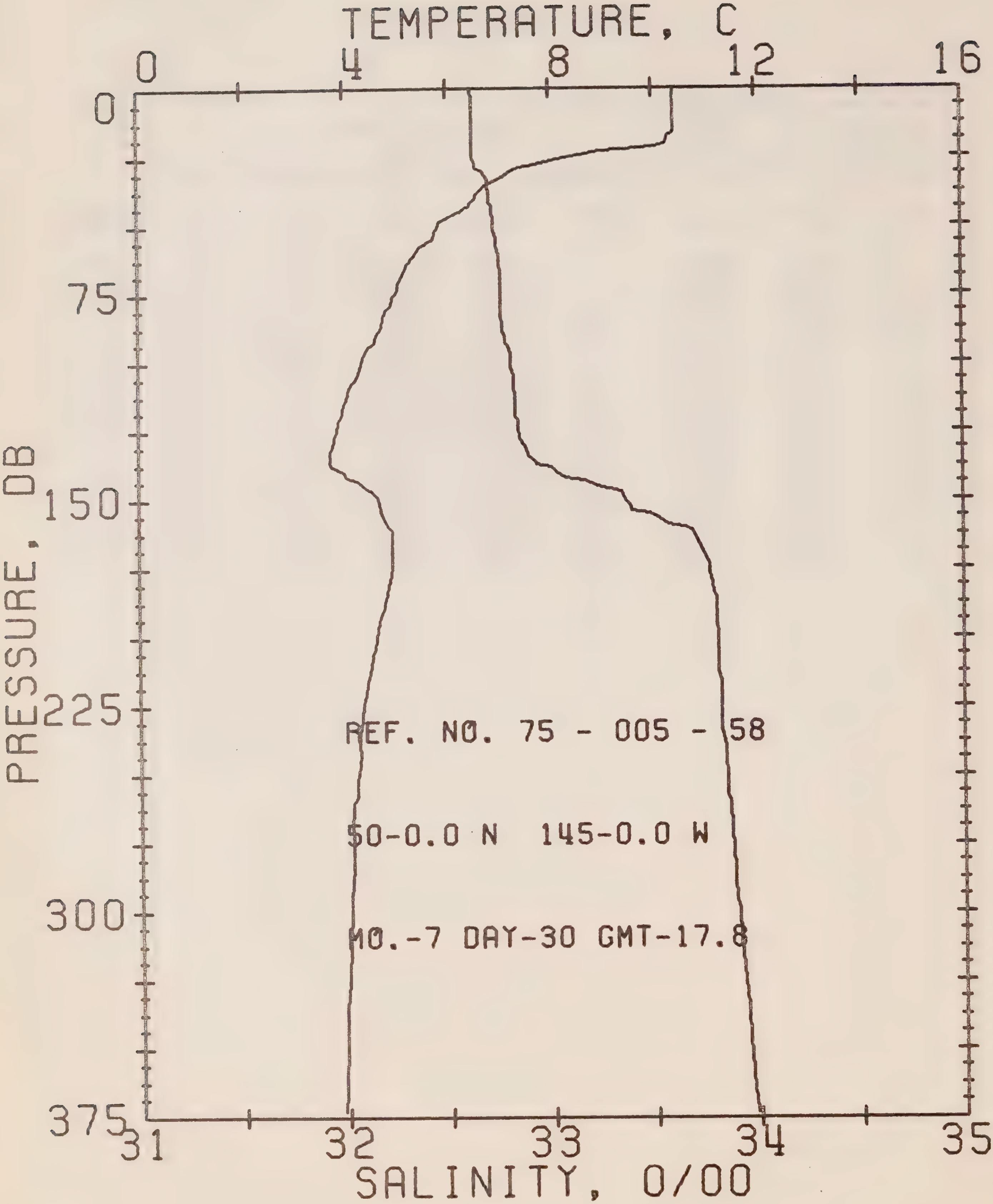
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 57
50-0.0 N 145-0.0 W
MO.-7 DAY-29 GMT-17.5
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 57 DATE 29/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.5
RESULTS OF STP CAST 140 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.39	32.49	0	24.95	301.2	0.0	0.0	1489.
10	10.38	32.51	10	24.97	300.0	0.30	0.02	1489.
20	10.08	32.51	20	25.02	295.4	0.60	0.06	1488.
30	9.01	32.53	30	25.21	277.8	0.89	0.13	1484.
50	6.12	32.62	50	25.68	232.4	1.39	0.34	1473.
75	5.18	32.66	75	25.82	219.2	1.94	0.69	1470.
100	4.52	32.73	99	25.95	206.9	2.48	1.16	1468.
125	3.90	32.82	124	26.09	194.2	2.98	1.74	1466.
150	4.55	33.30	149	26.40	164.9	3.43	2.38	1469.
175	4.87	33.73	174	26.71	136.0	3.80	2.98	1472.
200	4.63	33.77	199	26.77	130.9	4.13	3.61	1471.
225	4.45	33.79	223	26.80	127.8	4.45	4.32	1471.
250	4.25	33.80	248	26.83	125.2	4.77	5.08	1470.
300	4.05	33.87	298	26.91	117.9	5.38	6.77	1470.


TEMPERATURE, C
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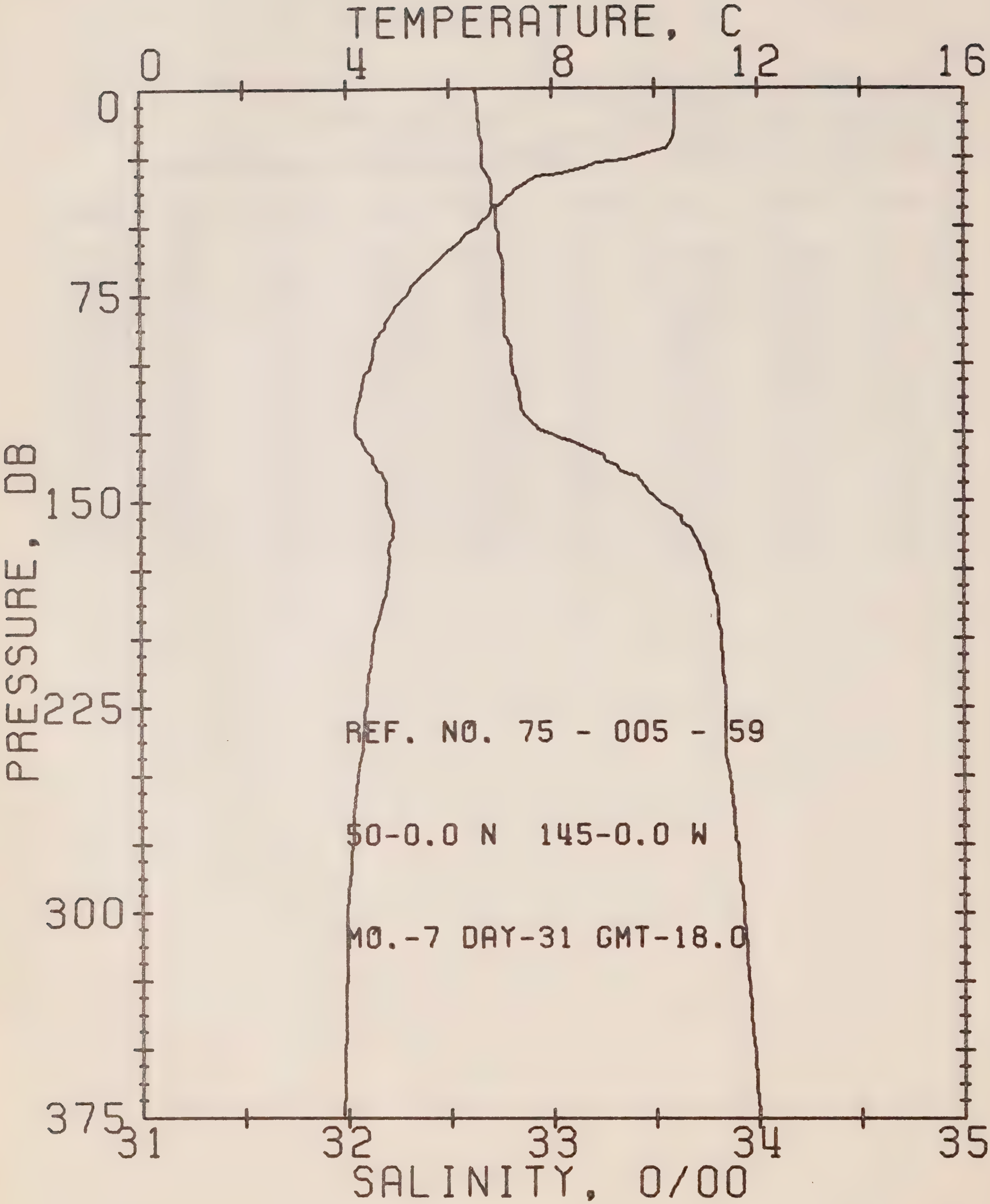
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 58
50-0.0 N 145-0.0 W
MO.-7 DAY-30 GMT-17.8
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 58 DATE 30/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.8
RESULTS OF STP CAST 139 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	10.43	32.62	0	25.05	292.3	0.0	0.0	1489.
10	10.43	32.63	10	25.05	291.9	0.29	0.01	1489.
20	10.26	32.63	20	25.08	289.3	0.58	0.06	1489.
30	7.27	32.67	30	25.57	242.8	0.85	0.13	1478.
50	5.81	32.73	50	25.81	220.5	1.31	0.31	1472.
75	4.99	32.76	75	25.93	209.4	1.84	0.65	1469.
100	4.32	32.81	99	26.04	198.9	2.36	1.11	1467.
125	3.84	32.84	124	26.11	192.1	2.84	1.67	1465.
150	4.64	33.36	149	26.44	161.4	3.29	2.30	1470.
175	4.90	33.77	174	26.74	133.6	3.65	2.89	1472.
200	4.59	33.81	199	26.80	127.6	3.98	3.51	1471.
225	4.32	33.82	223	26.84	124.2	4.29	4.20	1470.
250	4.22	33.85	248	26.87	121.1	4.60	4.94	1470.
300	4.05	33.90	298	26.93	115.9	5.19	6.60	1470.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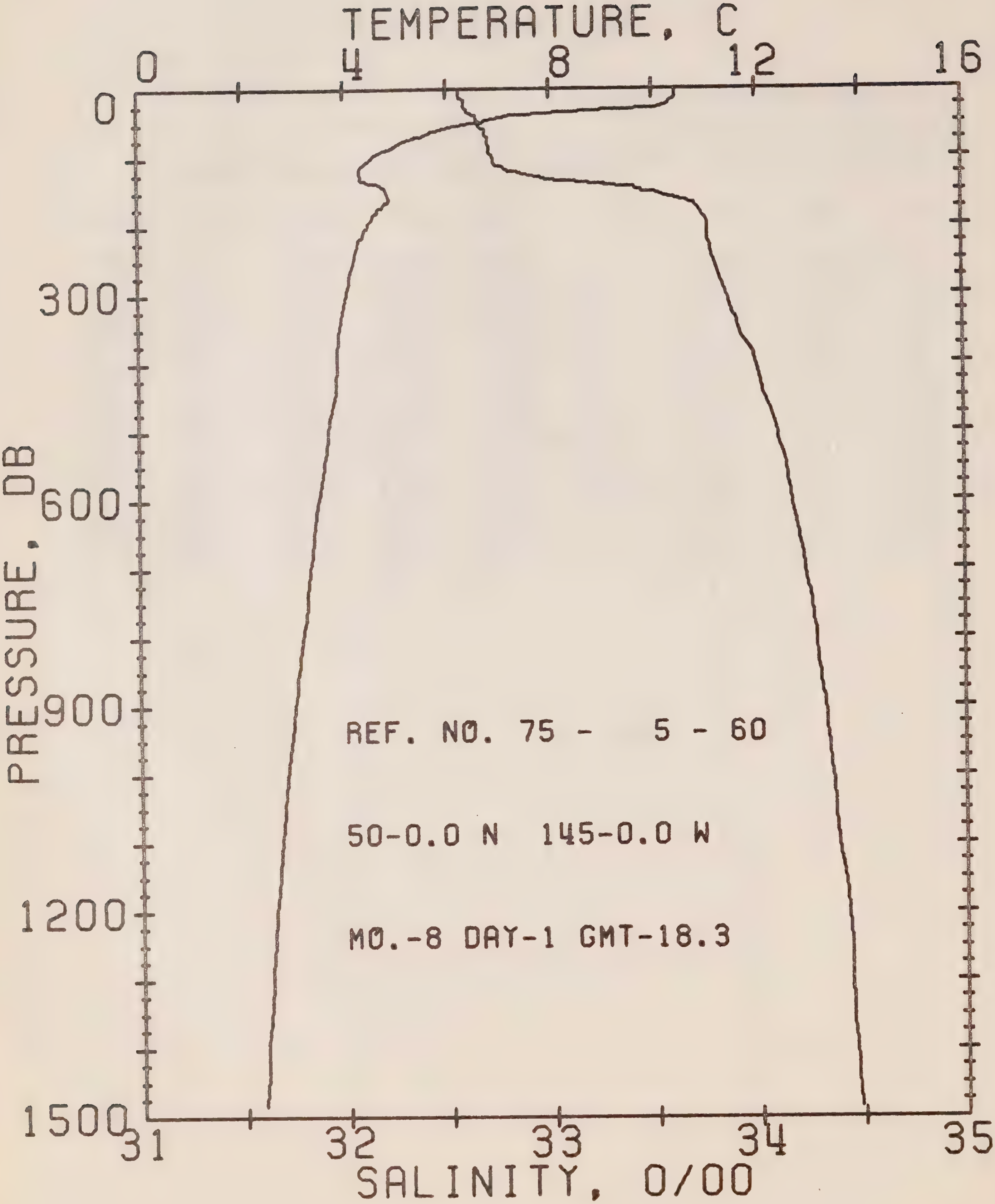
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 005 - 59
50-0.0 N 145-0.0 W
MO.-7 DAY-31 GMT-18.0
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 59 DATE 31/ 7/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.0
RESULTS OF STP CAST 134 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.41	32.63	0	25.06	291.2	0.0	0.0	1489.
10	10.40	32.64	10	25.07	290.8	0.29	0.01	1489.
20	10.29	32.66	20	25.10	287.6	0.58	0.06	1489.
30	8.39	32.67	30	25.41	258.1	0.86	0.13	1482.
50	6.56	32.73	50	25.71	229.6	1.33	0.32	1475.
75	5.17	32.76	75	25.91	211.4	1.88	0.67	1470.
100	4.47	32.80	99	26.02	201.2	2.39	1.13	1468.
125	4.16	32.97	124	26.18	185.5	2.88	1.69	1467.
150	4.78	33.51	149	26.55	151.2	3.30	2.26	1471.
175	4.81	33.75	174	26.73	134.2	3.65	2.85	1471.
200	4.50	33.82	199	26.82	125.8	3.97	3.46	1471.
225	4.35	33.84	223	26.85	123.0	4.28	4.14	1470.
250	4.18	33.86	248	26.89	119.9	4.59	4.87	1470.
300	3.98	33.93	298	26.96	113.2	5.17	6.50	1470.



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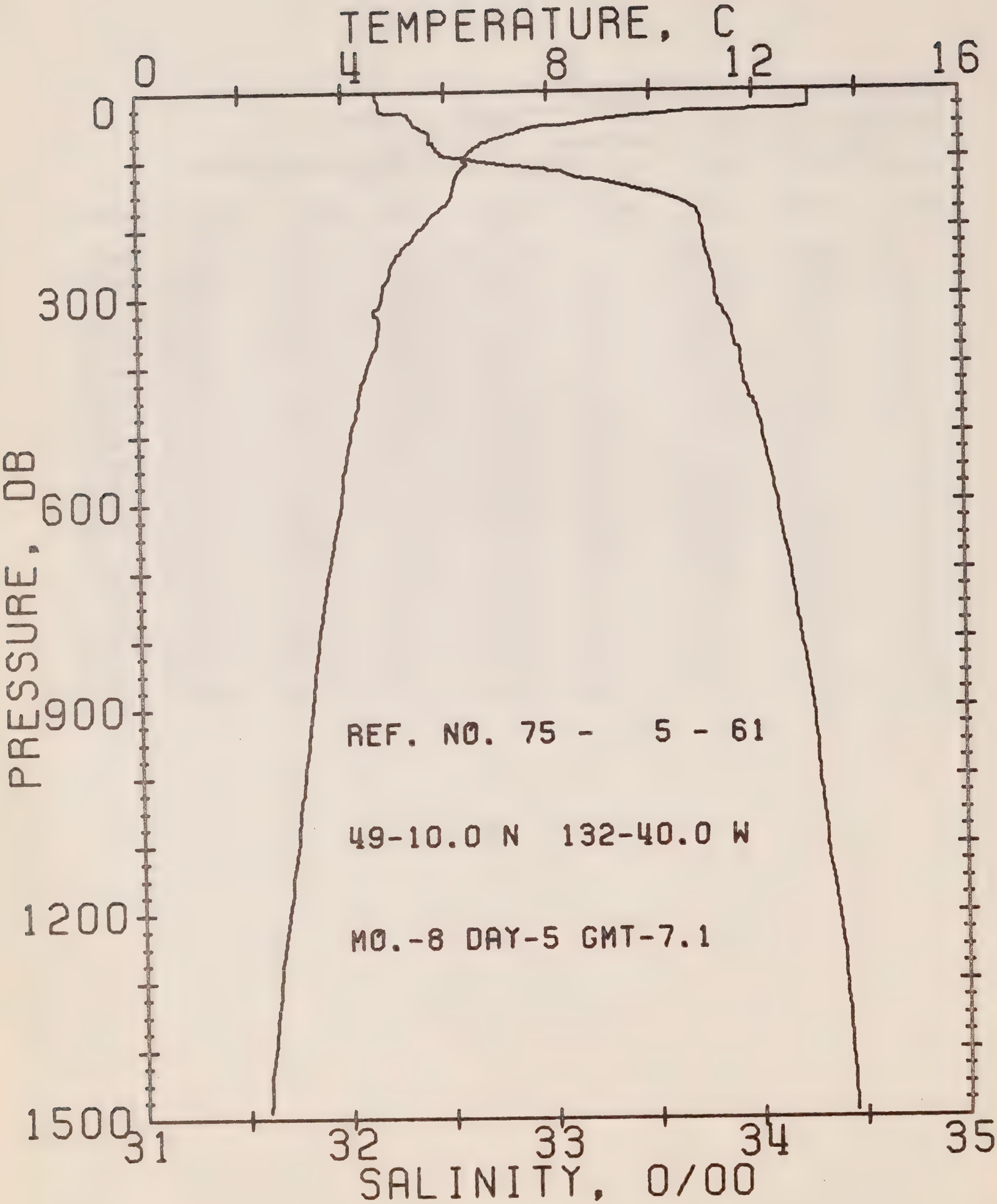
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 60
50-0.0 N 145-0.0 W
MO.-8 DAY-1 GMT-18.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 60 DATE 1/ 8/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.3
RESULTS OF STP CAST 179 POINTS TAKEN FROM ANALOG TRACE

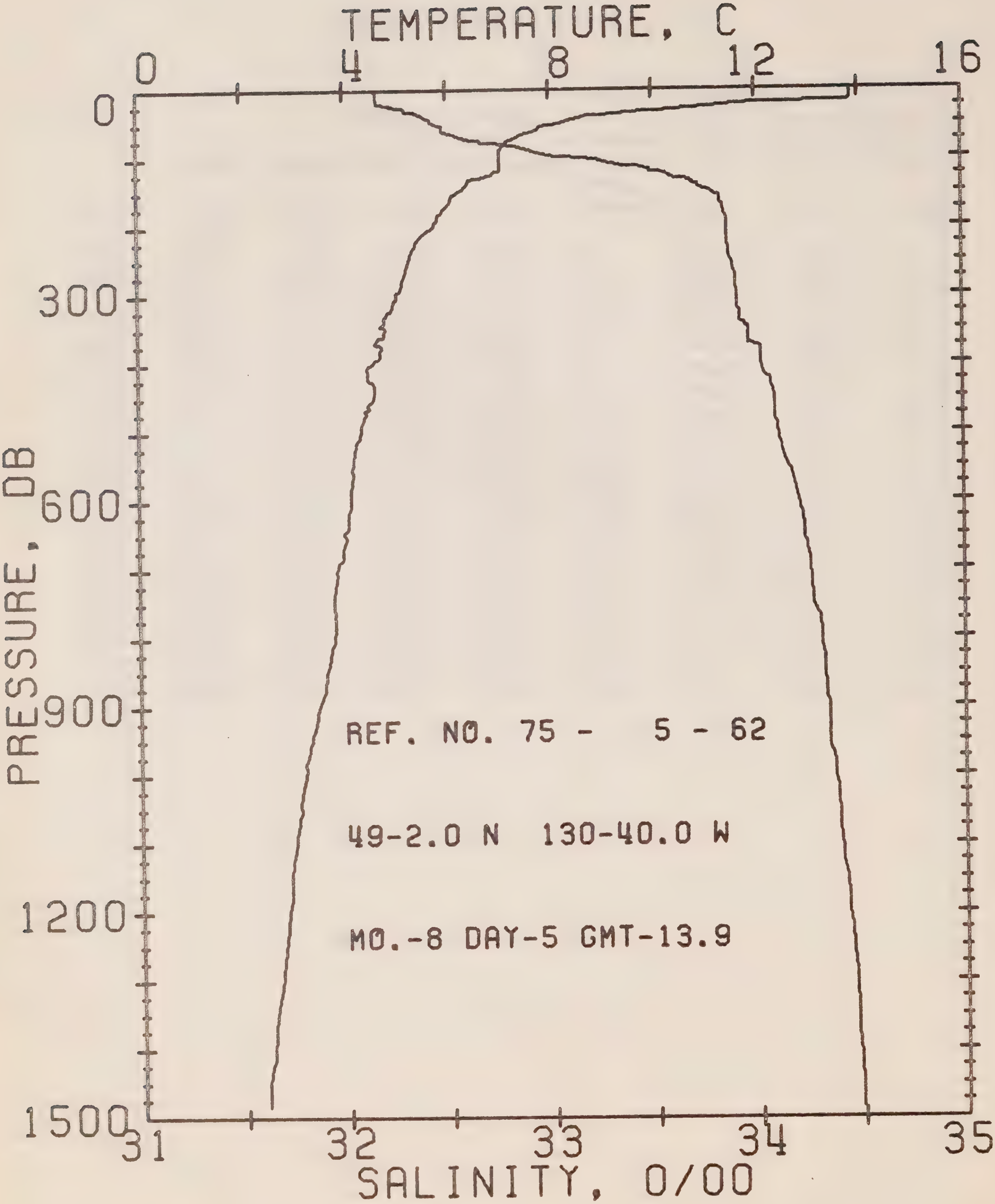
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.45	32.56	0	25.00	297.0	0.0	0.0	1489.
10	10.45	32.56	10	25.00	297.1	0.30	0.02	1489.
20	10.33	32.59	20	25.04	293.5	0.59	0.06	1489.
30	9.34	32.60	30	25.21	277.3	0.88	0.13	1485.
50	6.47	32.66	50	25.67	233.7	1.38	0.34	1475.
75	5.22	32.70	75	25.85	216.4	1.94	0.69	1470.
100	4.56	32.72	99	25.94	207.9	2.47	1.16	1468.
125	4.34	32.91	124	26.12	191.8	2.97	1.74	1468.
150	4.85	33.48	149	26.51	154.6	3.40	2.34	1471.
175	4.68	33.72	174	26.73	134.7	3.76	2.93	1471.
200	4.47	33.77	199	26.78	129.2	4.09	3.56	1470.
225	4.29	33.77	223	26.81	127.3	4.41	4.25	1470.
250	4.19	33.80	248	26.84	124.7	4.73	5.02	1470.
300	4.05	33.86	298	26.90	119.1	5.33	6.73	1470.
400	3.86	34.00	397	27.03	107.7	6.47	10.76	1471.
500	3.69	34.10	496	27.13	98.9	7.51	15.51	1473.
600	3.48	34.17	595	27.20	92.4	8.46	20.86	1473.
800	3.16	34.28	793	27.32	82.0	10.20	33.21	1475.
1000	2.84	34.36	990	27.41	74.1	11.76	47.49	1477.
1200	2.60	34.43	1188	27.49	67.3	13.17	63.35	1480.



TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 61
49-10.0 N 132-40.0 W
MO.-8 DAY-5 GMT-7.1
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 61 DATE 5/ 8/75
POSITION 49-10.0N, 132-40.0W GMT 7.1
RESULTS OF STP CAST 215 POINTS TAKEN FROM ANALOG TRACE

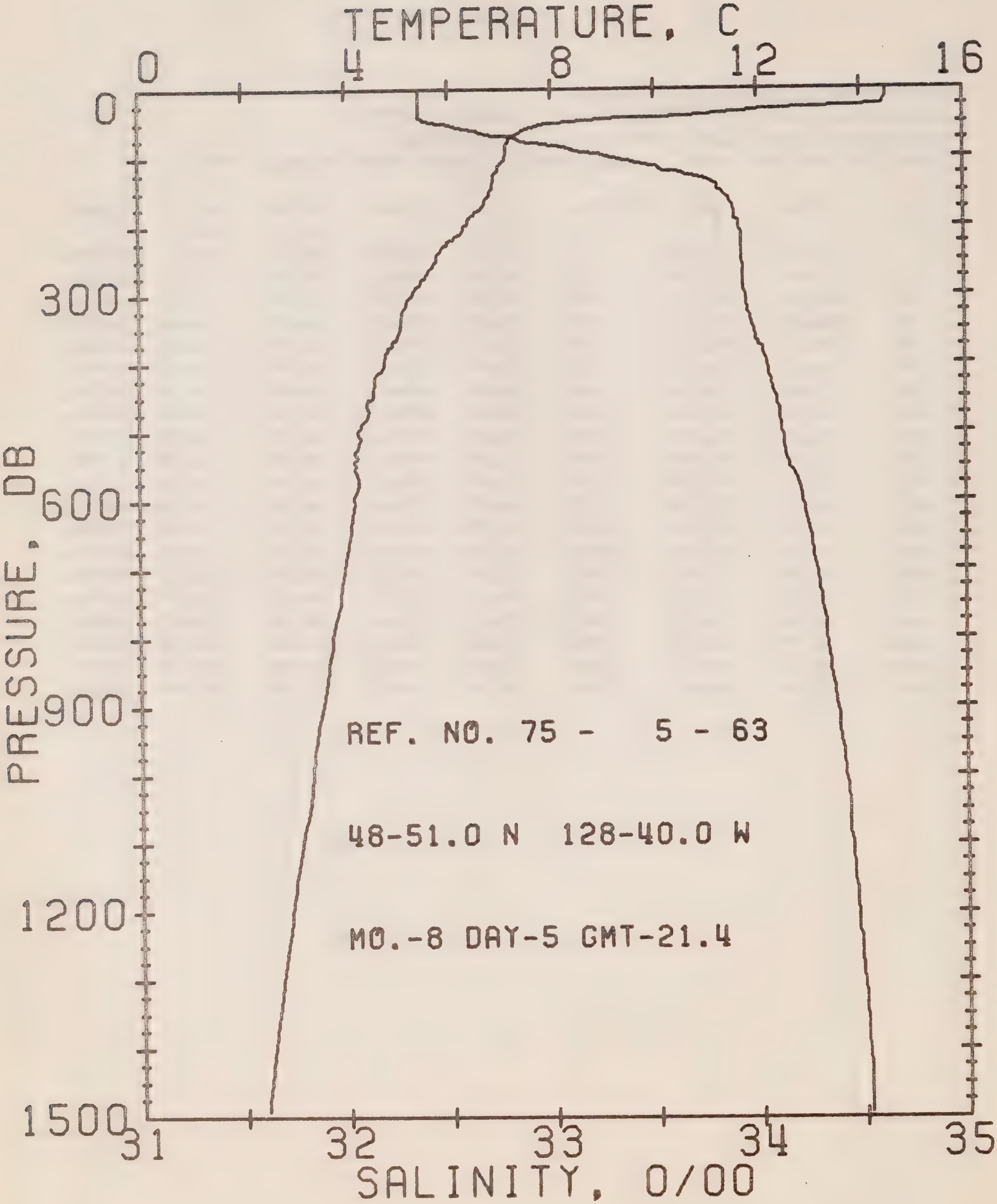
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.08	32.16	0	24.20	372.6	0.0	0.0	1498.
10	13.08	32.17	10	24.21	372.3	0.37	0.02	1498.
20	13.08	32.18	20	24.22	371.8	0.74	0.08	1498.
30	10.79	32.29	30	24.73	323.4	1.11	0.17	1490.
50	7.95	32.37	50	25.24	274.6	1.70	0.41	1480.
75	6.72	32.44	75	25.47	253.1	2.36	0.83	1476.
100	6.34	32.63	99	25.66	234.9	2.97	1.37	1475.
125	6.21	33.14	124	26.08	195.5	3.50	1.98	1475.
150	6.11	33.56	149	26.43	163.3	3.95	2.60	1476.
175	5.82	33.72	174	26.59	147.8	4.34	3.24	1476.
200	5.52	33.74	199	26.64	143.0	4.70	3.93	1475.
225	5.19	33.76	223	26.70	138.2	5.05	4.70	1474.
250	4.94	33.78	248	26.74	134.1	5.39	5.52	1473.
300	4.74	33.81	298	26.79	130.2	6.05	7.36	1473.
400	4.45	33.93	397	26.91	118.8	7.29	11.78	1474.
500	[illegible].11	34.03	496	27.03	108.6	8.43	16.99	1474.
600	3.92	34.10	595	27.10	102.2	9.48	22.88	1475.
800	3.45	34.21	793	27.24	90.5	11.40	36.55	1477.
1000	3.14	34.29	991	27.33	82.3	13.12	52.28	1479.
1200	2.80	34.37	1188	27.43	73.6	14.68	69.82	1481.



TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 62
49-2.0 N 130-40.0 W
MO.-8 DAY-5 GMT-13.9
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 62 DATE 5/ 8/75
POSITION 49- 2.0N, 130-40.0W GMT 13.9
RESULTS OF STP CAST 261 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.87	32.15	0	24.04	388.4	0.0	0.0	1500.
10	13.87	32.16	10	24.05	388.1	0.39	0.02	1500.
20	11.95	32.17	20	24.43	351.9	0.77	0.08	1494.
30	10.29	32.30	30	24.82	314.5	1.10	0.16	1488.
50	8.13	32.46	50	25.29	270.4	1.67	0.39	1481.
75	7.20	32.66	75	25.58	243.2	2.32	0.80	1478.
100	7.04	33.16	99	25.99	204.2	2.88	1.30	1478.
125	6.86	33.59	124	26.35	170.2	3.35	1.84	1479.
150	6.21	33.79	149	26.59	147.3	3.74	2.38	1477.
175	5.95	33.84	174	26.67	140.5	4.10	2.98	1476.
200	5.73	33.86	199	26.71	136.9	4.44	3.64	1476.
225	5.38	33.86	223	26.75	133.0	4.78	4.36	1475.
250	5.24	33.88	248	26.78	130.2	5.11	5.16	1475.
300	5.01	33.91	298	26.84	125.7	5.75	6.95	1474.
400	4.54	34.02	397	26.97	113.2	6.95	11.22	1474.
500	4.31	34.10	496	27.07	105.3	8.03	16.20	1475.
600	4.10	34.20	595	27.17	96.4	9.04	21.83	1476.
800	3.75	34.31	793	27.29	86.3	10.86	34.79	1478.
1000	3.17	34.37	990	27.39	76.7	12.49	49.75	1479.
1200	2.82	34.43	1188	27.47	69.5	13.95	66.09	1481.


TEMPERATURE, C
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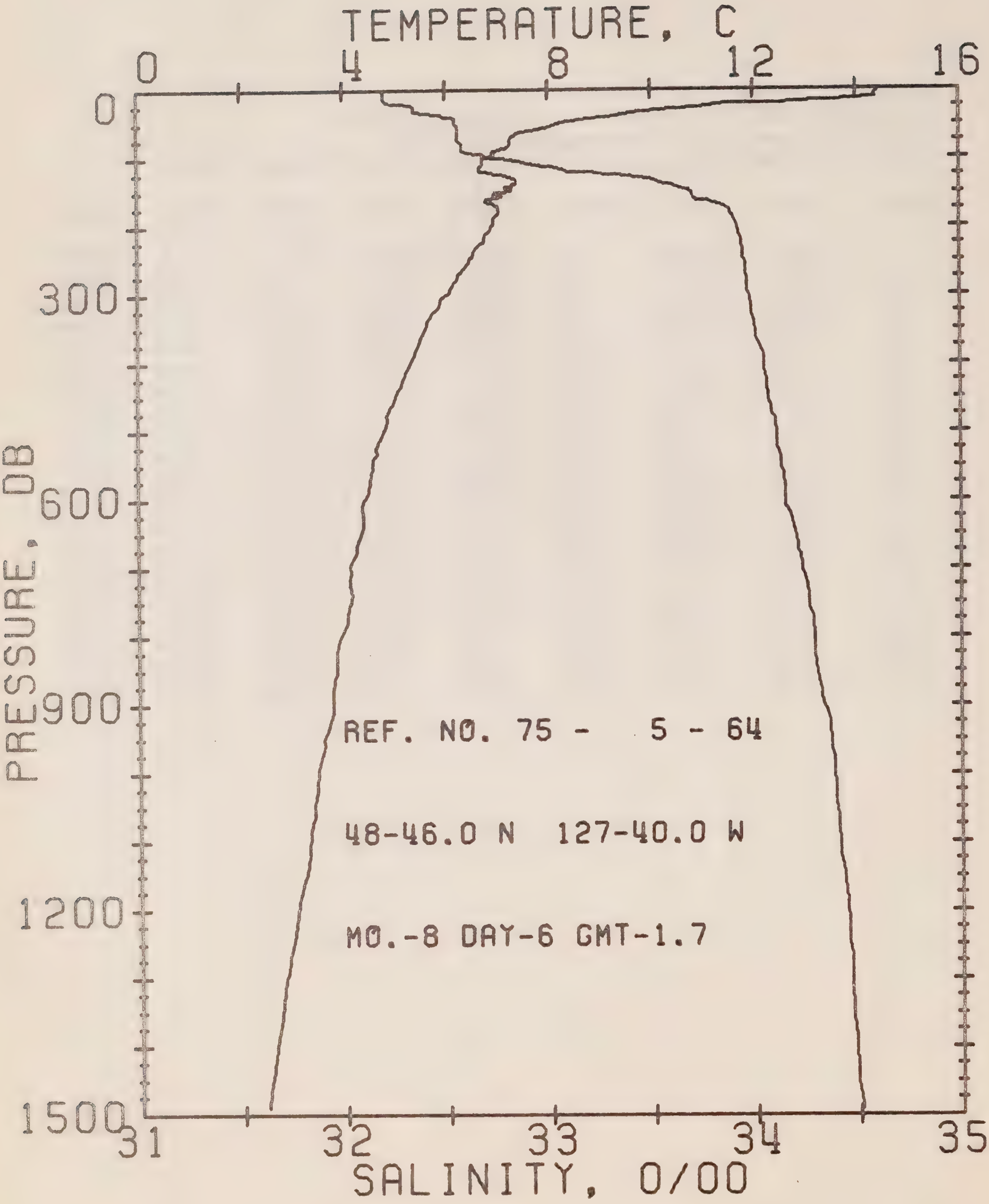
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 63
48-51.0 N 128-40.0 W
MO.-8 DAY-5 GMT-21.4
31
32
33
34
35
SALINITY, 0/00

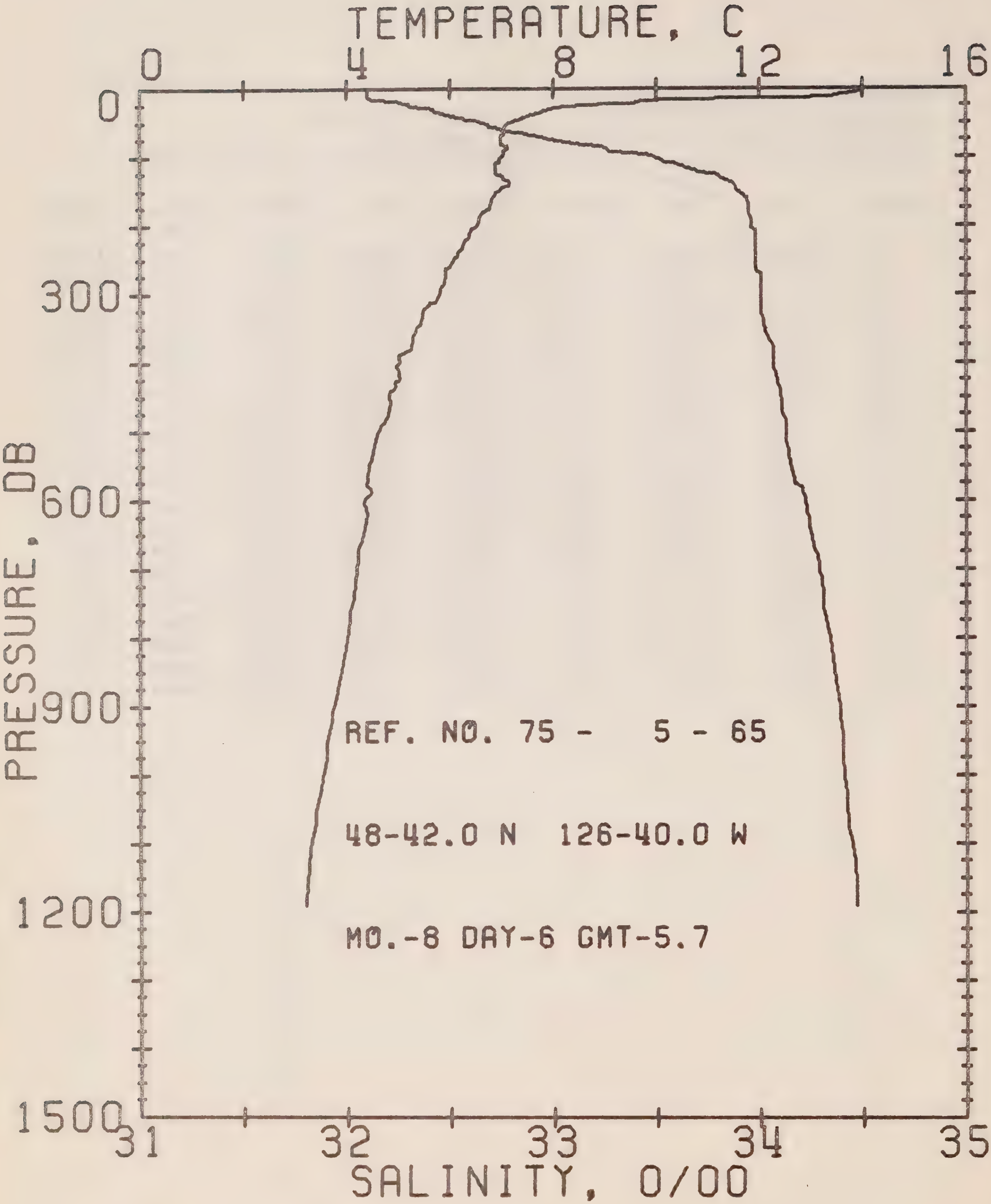
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 63   DATE 5/ 8/75
POSITION 48-51.0N, 128-40.0W   GMT 21.4
RESULTS OF STP CAST   234 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.51	32.36	0	24.07	385.6	0.0	0.0	1503.
10	14.50	32.36	10	24.07	385.9	0.39	0.02	1503.
20	14.45	32.36	20	24.08	385.1	0.77	0.08	1503.
30	12.05	32.36	30	24.56	339.9	1.14	0.17	1495.
50	7.92	32.48	50	25.33	266.0	1.75	0.42	1480.
75	7.17	32.86	75	25.74	227.9	2.37	0.81	1478.
100	7.10	33.31	99	26.10	193.8	2.89	1.27	1479.
125	6.88	33.66	124	26.40	165.2	3.34	1.79	1479.
150	6.81	33.83	149	26.55	152.2	3.73	2.33	1479.
175	6.62	33.88	174	26.61	145.9	4.10	2.95	1479.
200	6.30	33.91	199	26.68	140.1	4.46	3.63	1478.
225	5.98	33.92	223	26.73	135.8	4.80	4.38	1477.
250	5.75	33.92	248	26.75	133.3	5.14	5.19	1477.
300	5.27	33.94	298	26.83	126.7	5.79	7.01	1476.
400	4.74	34.04	397	26.97	114.0	7.00	11.31	1475.
500	4.21	34.11	496	27.08	103.7	8.08	16.28	1475.
600	4.15	34.21	595	27.17	96.5	9.09	21.91	1476.
800	3.70	34.32	793	27.30	84.7	10.90	34.77	1478.
1000	3.31	34.41	991	27.41	75.3	12.49	49.38	1480.
1200	2.89	34.47	1188	27.49	67.7	13.92	65.36	1481.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 64
48-46.0 N 127-40.0 W
MO.-8 DAY-6 GMT-1.7
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 64 DATE 6/ 8/75
POSITION 48-46.0N, 127-40.0W GMT 1.7
RESULTS OF STP CAST 230 POINTS TAKEN FROM ANALOG TRACE

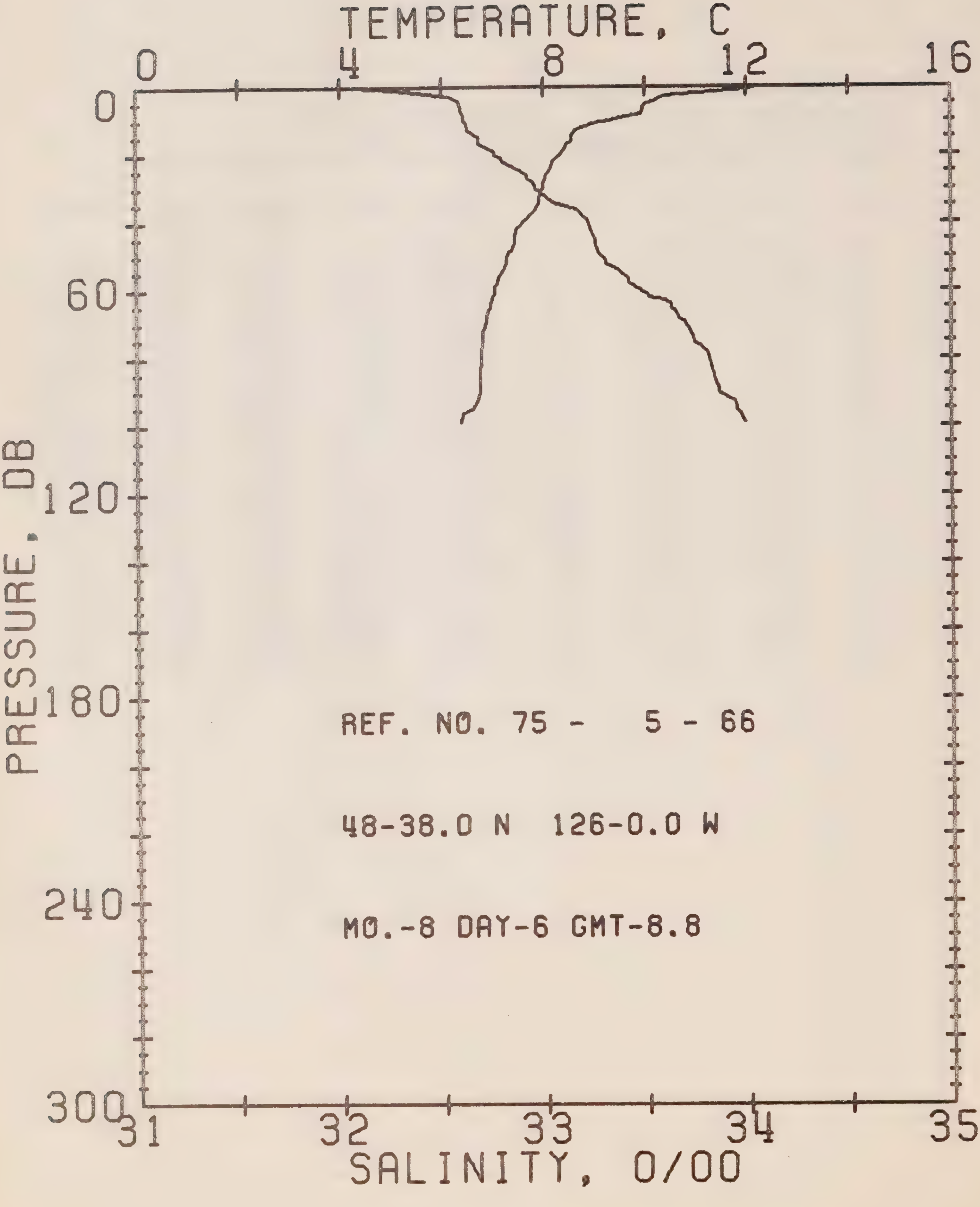
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.43	32.19	0	23.95	396.5	0.0	0.0	1502.
10	14.36	32.20	10	23.98	394.8	0.40	0.02	1502.
20	11.54	32.28	20	24.59	336.7	0.78	0.08	1493.
30	10.13	32.35	30	24.89	308.2	1.10	0.16	1488.
50	8.14	32.55	50	25.36	263.5	1.66	0.39	1481.
75	7.26	32.57	75	25.50	250.8	2.30	0.79	1478.
100	6.77	32.75	99	25.71	230.9	2.91	1.34	1477.
125	7.15	33.39	124	26.16	188.9	3.44	1.94	1480.
150	6.96	33.70	149	26.43	163.7	3.88	2.56	1480.
175	7.03	33.88	174	26.56	151.5	4.28	3.22	1481.
200	6.88	33.92	199	26.61	147.0	4.65	3.93	1480.
225	6.68	33.94	223	26.65	143.2	5.01	4.71	1480.
250	6.45	33.96	248	26.69	139.3	5.37	5.57	1480.
300	6.01	33.98	298	26.77	132.9	6.05	7.48	1479.
400	5.29	34.05	397	26.91	119.6	7.31	11.96	1477.
500	4.78	34.11	496	27.02	110.5	8.46	17.23	1477.
600	4.38	34.15	595	27.10	103.6	9.52	23.21	1477.
800	3.91	34.29	793	27.26	89.6	11.45	36.92	1479.
1000	3.46	34.38	991	27.37	79.1	13.15	52.43	1480.
1200	3.04	34.44	1188	27.46	71.2	14.66	69.39	1482.



TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 5 - 65
48-42.0 N 126-40.0 W
MO.-8 DAY-6 GMT-5.7
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 65 DATE 6/ 8/75
POSITION 48-42.0N, 126-40.0W GMT 5.7
RESULTS OF STP CAST 221 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.98	32.10	0	23.98	394.2	0.0	0.0	1501.
10	13.49	32.10	10	24.08	385.2	0.39	0.02	1499.
20	9.59	32.27	20	24.92	305.1	0.74	0.07	1486.
30	7.94	32.42	30	25.28	270.4	1.03	0.14	1480.
50	7.12	32.67	50	25.59	241.1	1.54	0.35	1477.
75	6.98	33.01	75	25.88	214.2	2.11	0.72	1478.
100	6.98	33.49	99	26.26	178.9	2.60	1.15	1479.
125	6.92	33.80	124	26.51	155.4	3.02	1.63	1479.
150	6.91	33.90	149	26.59	147.8	3.41	2.17	1480.
175	6.77	33.95	174	26.65	142.9	3.77	2.77	1480.
200	6.50	33.96	199	26.69	139.0	4.12	3.44	1479.
225	6.26	33.98	223	26.74	134.8	4.46	4.18	1478.
250	6.07	33.98	248	26.76	132.7	4.79	4.99	1478.
300	5.79	34.01	298	26.82	127.6	5.44	6.80	1478.
400	5.00	34.07	397	26.96	114.8	6.65	11.12	1476.
500	4.60	34.13	496	27.06	106.6	7.77	16.21	1476.
600	4.33	34.22	595	27.16	97.8	8.80	21.99	1477.
800	3.99	34.34	793	27.29	86.9	10.65	35.15	1479.
1000	3.52	34.41	991	27.39	77.9	12.28	50.13	1480.



TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
PRESSURE, DB
REF. NO. 75 - 5 - 66
48-38.0 N 126-0.0 W
MO.-8 DAY-6 GMT-8.8
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 5- 66 DATE 6/ 8/75
POSITION 48-38.0N, 126- 0.0W GMT 8.8
RESULTS OF STP CAST 62 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.22	32.07	0	24.30	363.5	0.0	0.0	1495.
10	9.31	32.61	10	25.22	275.8	0.30	0.01	1485.
20	8.34	32.76	20	25.49	250.5	0.56	0.05	1482.
30	8.00	32.96	30	25.70	231.1	0.80	0.12	1481.
50	7.30	33.28	50	26.05	197.6	1.22	0.29	1479.
75	6.79	33.74	75	26.48	157.4	1.66	0.56	1478.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	12.22	32.07	48.	7.39	33.26
1.	12.05	32.27	49.	7.31	33.27
3.	10.37	32.54	51.	7.29	33.30
4.	10.24	32.58	52.	7.27	33.31
5.	9.99	32.59	54.	7.23	33.37
8.	9.94	32.60	56.	7.13	33.41
9.	9.63	32.61	58.	7.09	33.43
10.	9.31	32.61	59.	7.05	33.45
11.	8.98	32.62	60.	7.04	33.48
13.	8.63	32.63	61.	7.03	33.51
14.	8.58	32.66	62.	7.02	33.52
15.	8.57	32.68	63.	6.99	33.60
16.	8.56	32.68	64.	6.97	33.63
17.	8.48	32.68	65.	6.97	33.63
19.	8.40	32.75	66.	6.90	33.65
20.	8.34	32.76	68.	6.87	33.66
21.	8.27	32.79	69.	6.87	33.69
22.	8.20	32.80	71.	6.86	33.71
24.	8.15	32.87	72.	6.81	33.72
26.	8.04	32.92	75.	6.79	33.74
27.	8.04	32.92	76.	6.79	33.77
28.	8.01	32.95	78.	6.78	33.80
30.	8.00	32.96	79.	6.77	33.81
31.	7.94	32.98	87.	6.76	33.84
34.	7.93	33.05	89.	6.76	33.86
36.	7.87	33.16	90.	6.74	33.86
39.	7.68	33.21	93.	6.69	33.94
40.	7.59	33.22	95.	6.59	33.95
42.	7.47	33.23	96.	6.44	33.96
45.	7.45	33.25	97.	6.40	33.97
46.	7.43	33.25	99.	6.36	33.99

Bathythermograph Observations
(P-75-5)

BATHYTHERMOGRAPH OBSERVATIONS

This section includes all B.T.'s taken on Line P outbound and inbound, and one a day on Station P.

Although B.T.'s at Station P were taken every three hours, only the one taken at 1800 GMT has been shown.

Weather conditions on Line P sometimes force the cancellation of a B.T., in that case an X.B.T. was taken. These X.B.T.'s are shown following the B.T.'s.

EXPLANATION OF HEADINGS

Example: 0030 / 13-04-74

48°34' N.

125°30' W.

0030 = Time in GMT

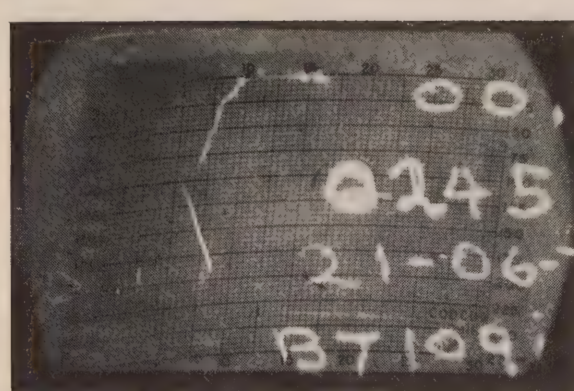
13 = Day

04 = Month

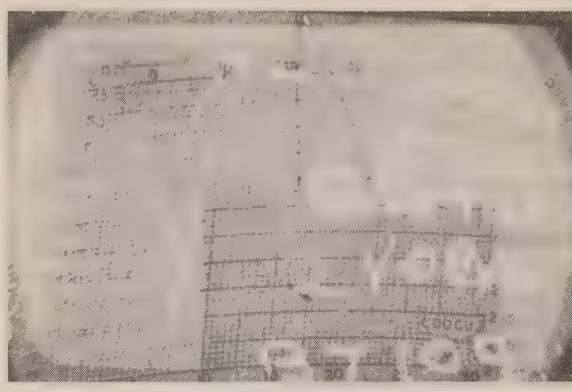
74 = Year

48°34' N. = Latitude

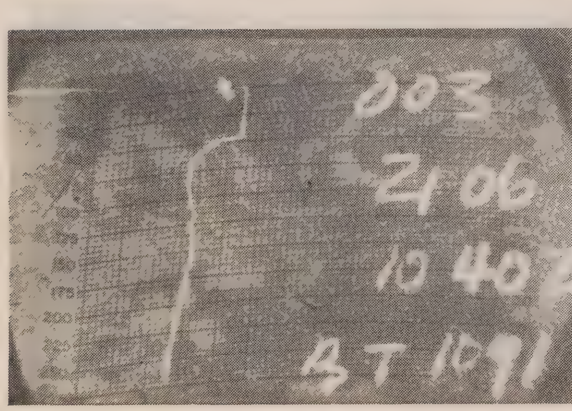
125°30' W. = Longitude



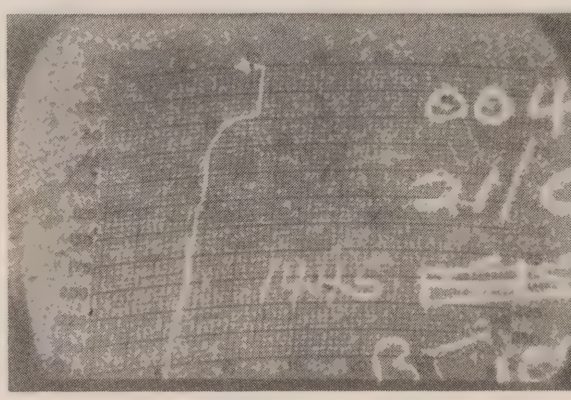
0245 / 21-06-75
48° 33' N.
125° 33' W.



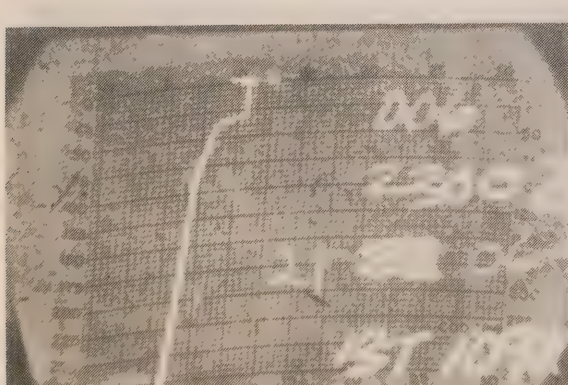
0700 / 21-06-75
48° 42' N.
126° 40' W.



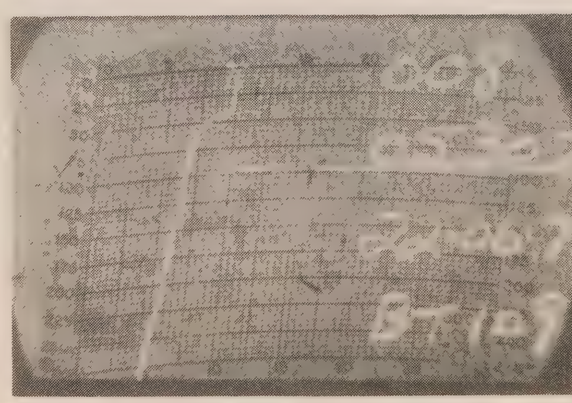
1040 / 21-06-75
48° 46' N.
127° 40' W.



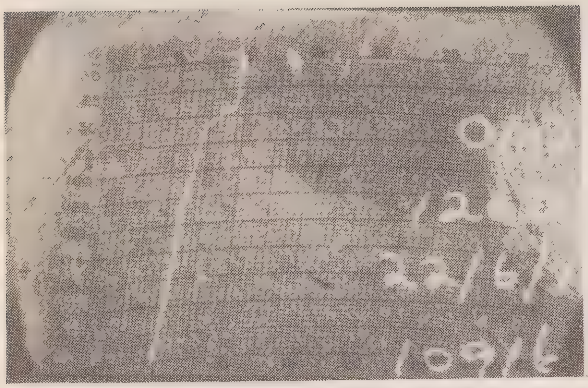
1445 / 21-06-75
48° 51' N.
128° 40' W.



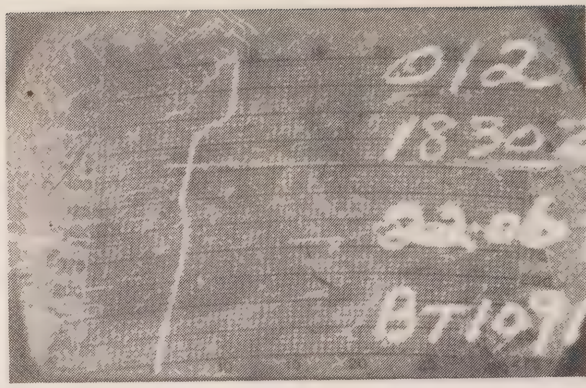
2300 / 21-06-75
49° 02' N.
130° 40' W.



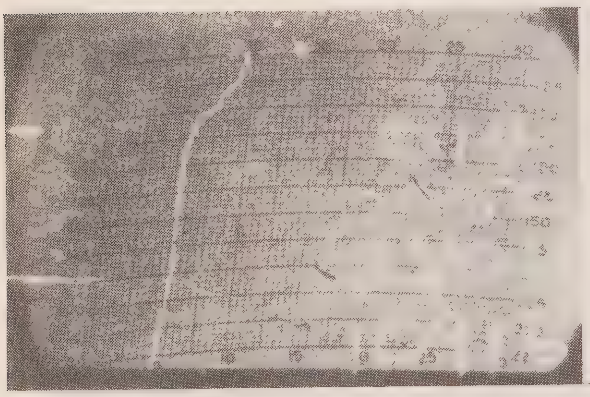
0530 / 22-06-75
49° 10' N.
132° 40' W.



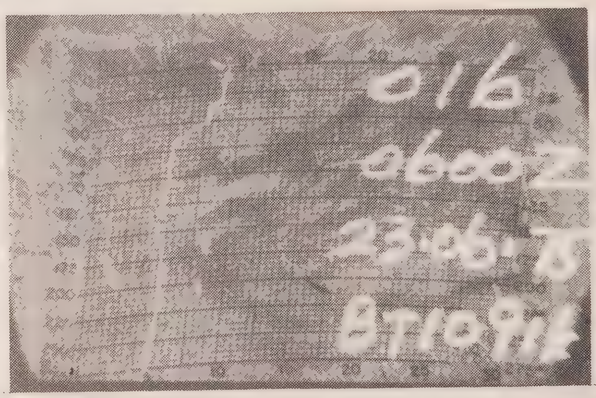
1200 / 22-06-75
49° 17' N.
134° 40' W.



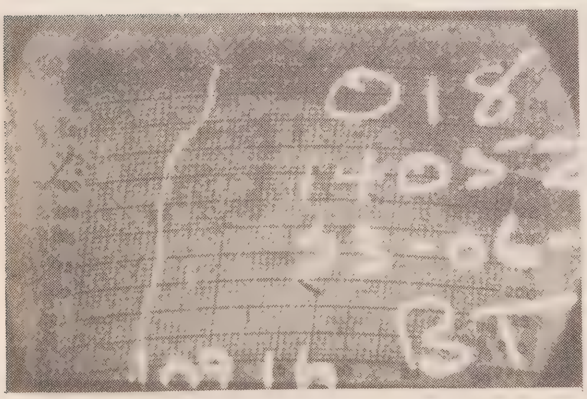
1830 / 22-06-75
49° 26' N.
136° 40' W.



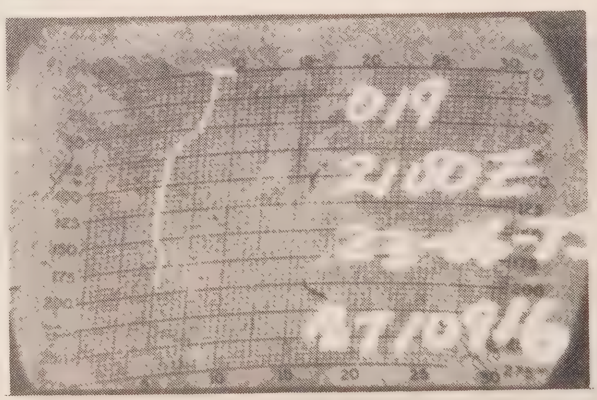
0050 / 23-06-75
49° 34' N.
138° 40' W.



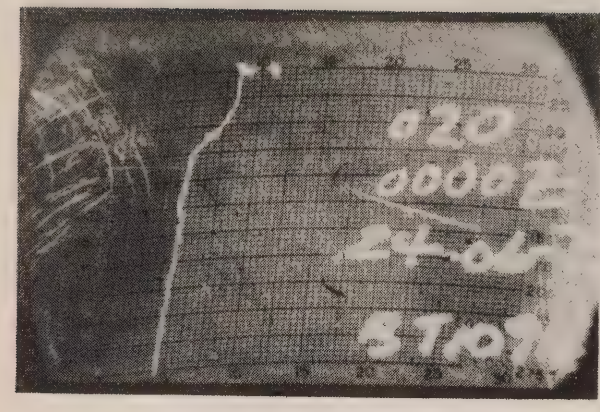
0600 / 23-06-75
49° 41' N.
140° 40' W.



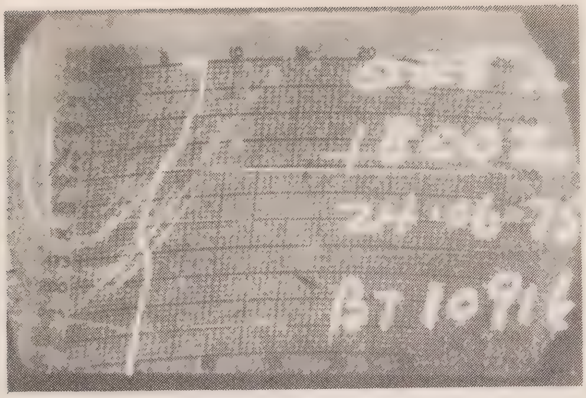
1405 / 23-06-75
49° 49' N.
142° 40' W.



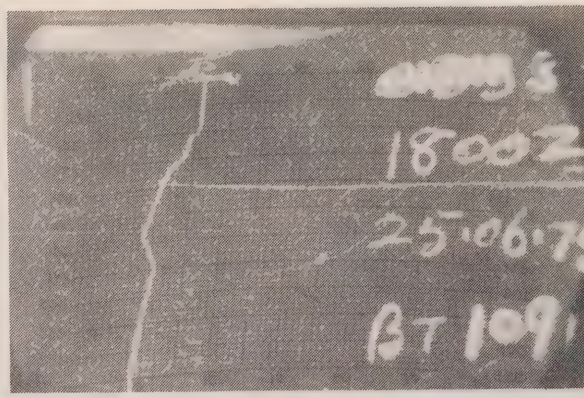
2100 / 23-06-75
49° 54' N.
143° 40' W.



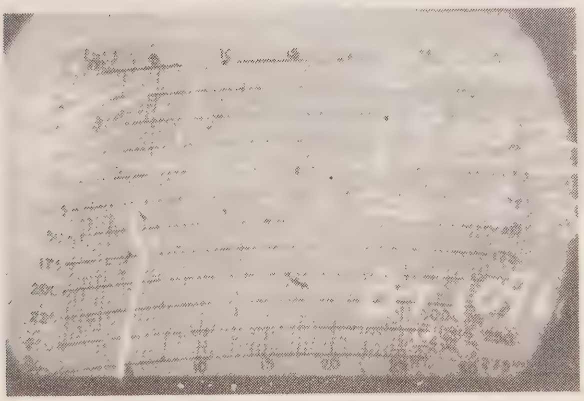
0000 / 24-06-75
49° 56' N.
144° 06' W.



1800 / 24-06-75
49° 58' N.
144° 56' W.

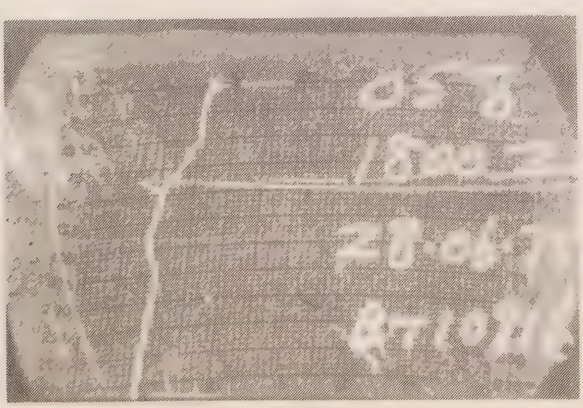


1800 / 25-06-75
49° 57' N.
145° 05' W.

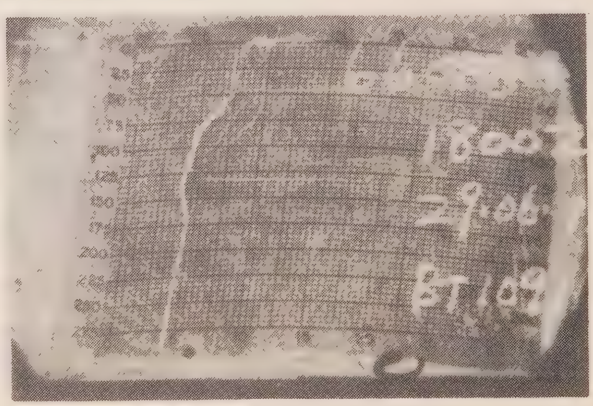


1800 / 26-06-75
49° 55' N.
145° 00' W.

1800 / 27-06-75
50° 00' N.
145° 06' W.

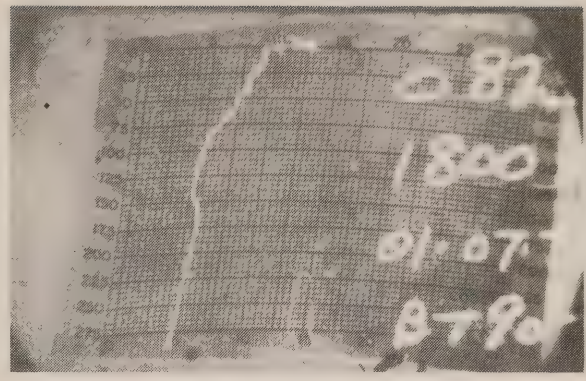


1800 / 28-06-75
50° 00' N.
145° 00' W.

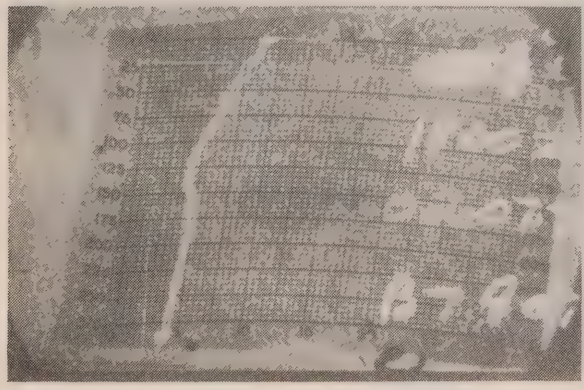


1800 / 29-06-75
50° 00' N.
145° 00' W.

1800 / 30-06-75
49° 56' N.
145° 03' W.

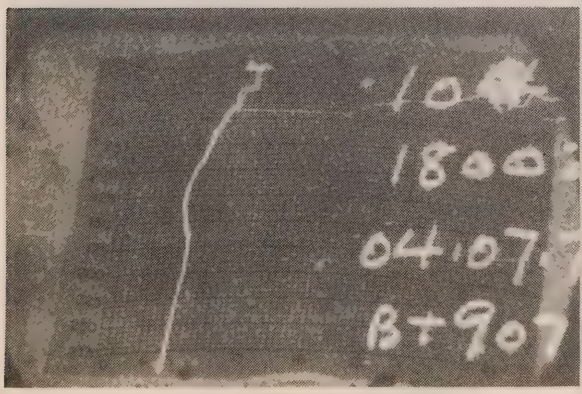


1800 / 01-07-75
49° 57' N.
144° 53' W.

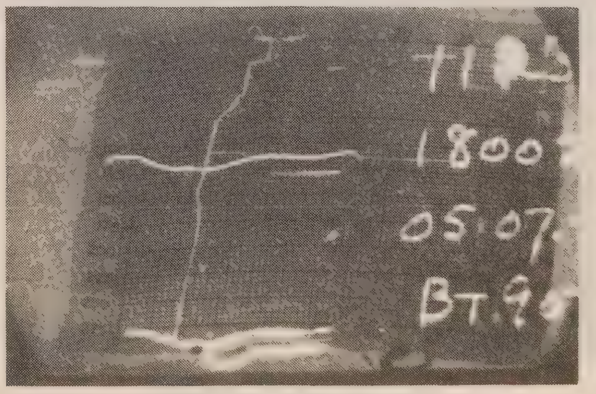


1800 / 02-07-75
49° 59' N.
144° 58' W.

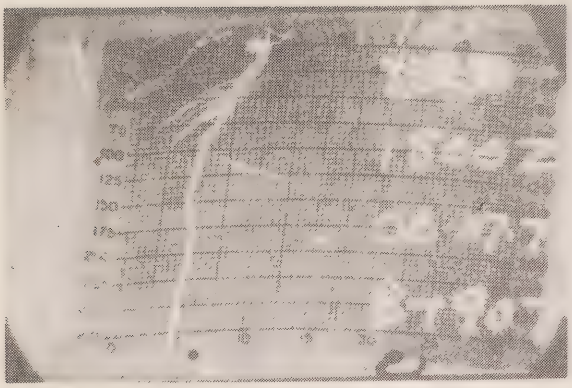
1800 / 03-07-75
49° 57' N.
144° 57' W.



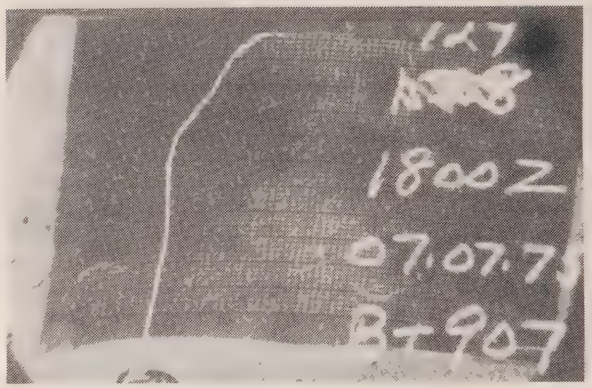
1800 / 04-07-75
49° 55' N.
145° 02' W.



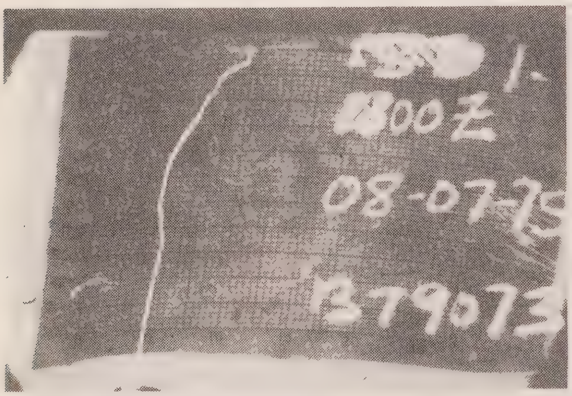
1800 / 05-07-75
49° 59' N.
144° 59' W.



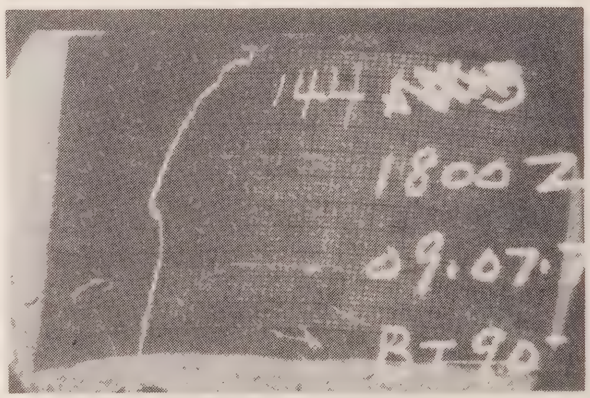
1800 / 06-07-75
50° 00' N.
145° 00' W.



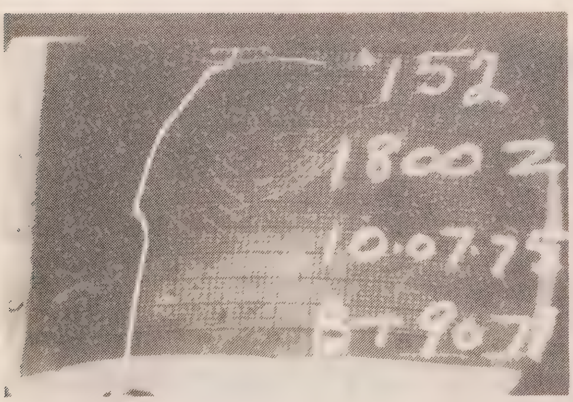
1800 / 07-07-75
50° 00' N.
145° 00' W.



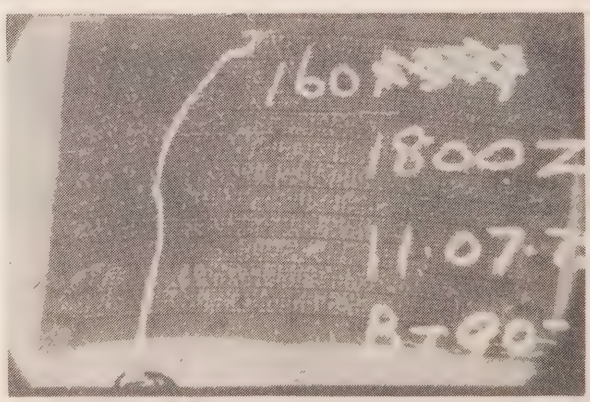
1800 / 08-07-75
50° 02' N.
145° 05' W.



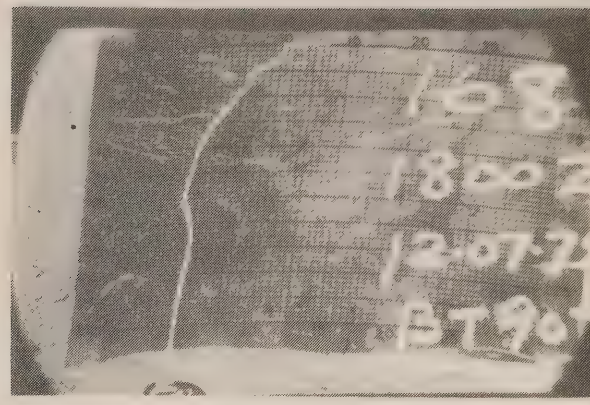
1800 / 09-07-75
49° 58' N.
145° 00' W.



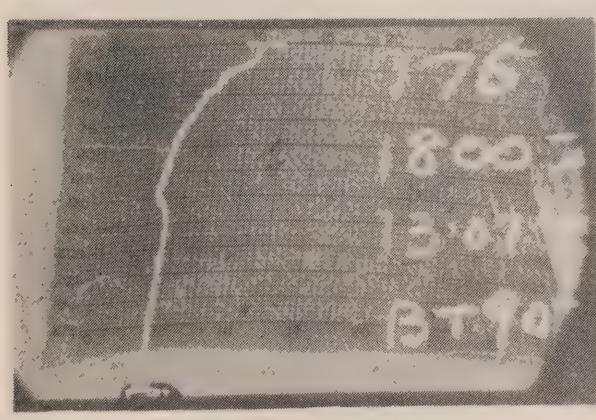
1800 / 10-07-75
50° 00' N.
145° 00' W.



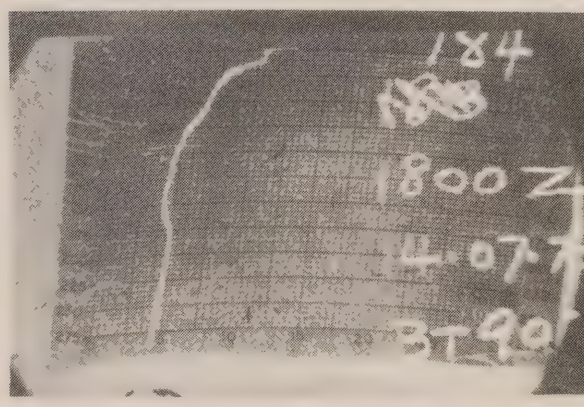
1800 / 11-07-75
50° 00' N.
145° 00' W.



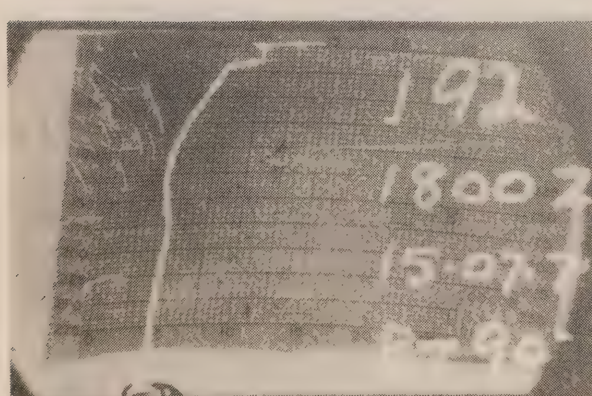
1800 / 12-07-75
50° 02'N.
145° 00'W.



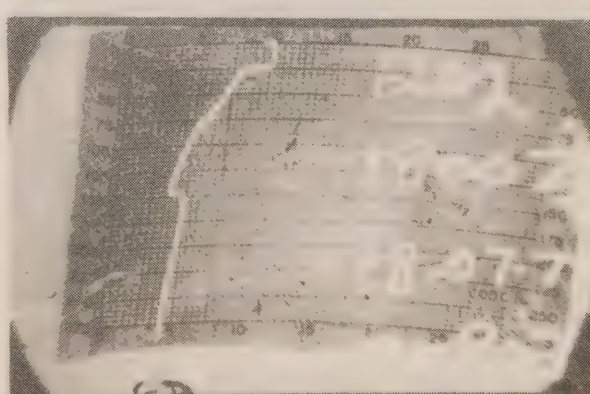
1800 / 13-07-75
50° 00' N.
145° 00'W.



1800 / 14-07-75
50° 00' N.
144° 57' W.

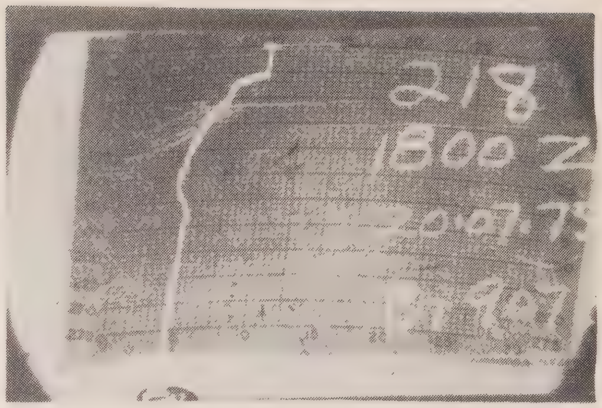


1800 / 15-07-75
49° 57' N.
145° 00' W.

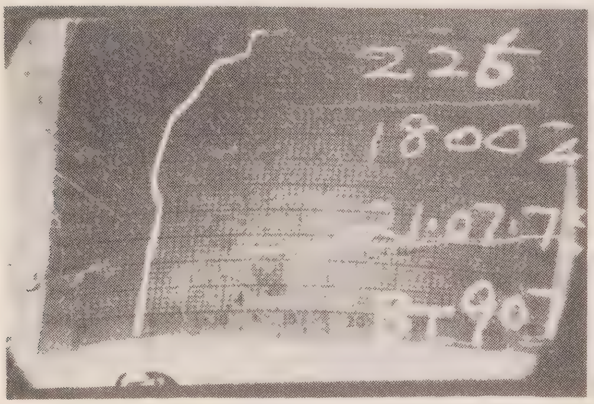


1800 / 18-07-75
49° 59' N.
144° 56' W.

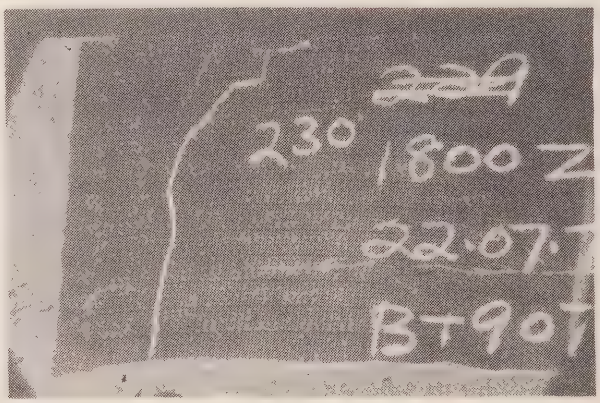
1800 / 19-07-75
49° 58' N.
144° 59' W.



1800 / 20-07-75
49° 58' N.
144° 34' W.

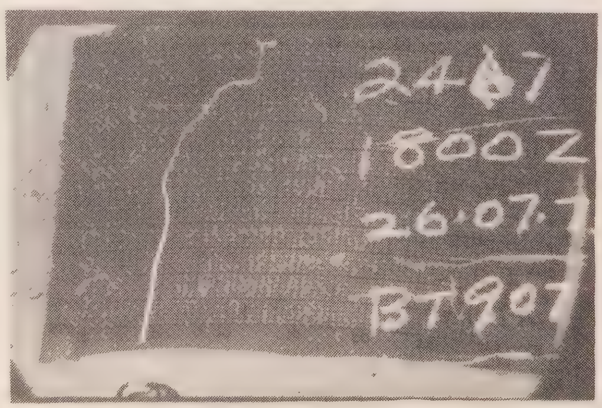


1800 / 21-07-75
49° 58' N.
145° 00' W.



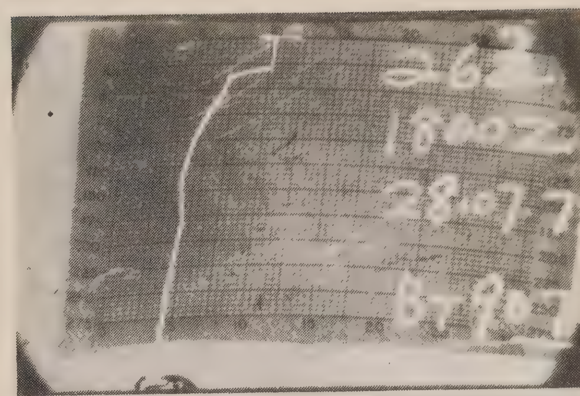
1800 / 22-07-75
49° 57' N.
144° 56' W.

1800 / 25-07-75
49° 59' N.
145° 01' W.

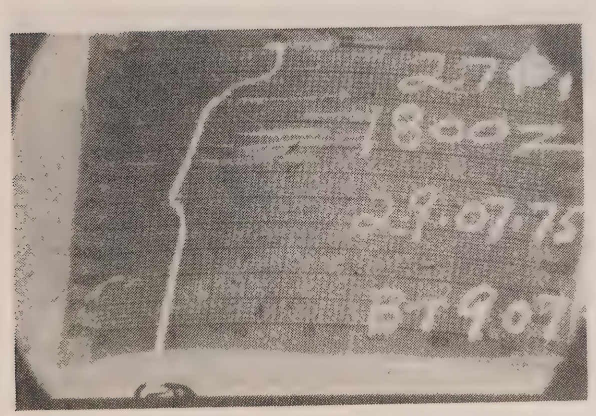


1800 / 26-07-75
49° 54' N.
145° 00' W.

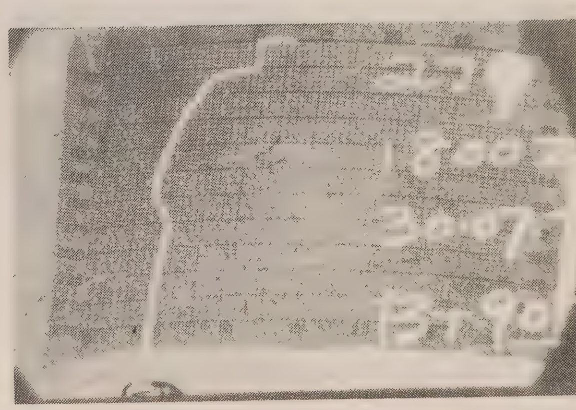
1800 / 27-07-75
50° 00' N.
144° 37' W.



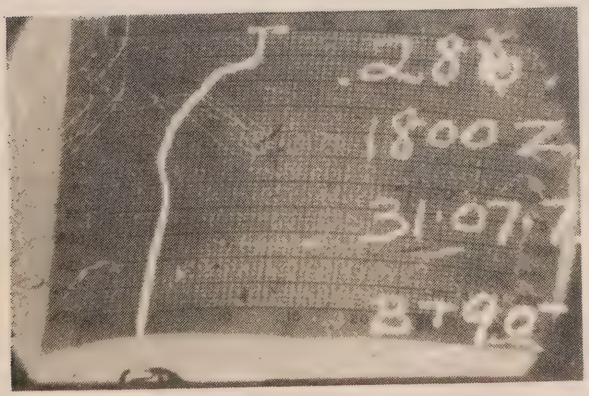
1800 / 28-07-75
49° 57' N.
145° 05' W.



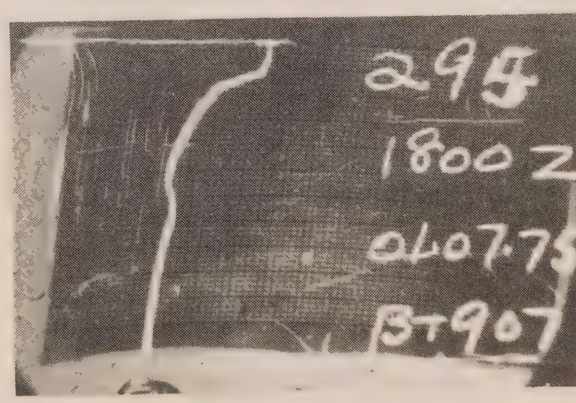
1800 / 29-07-75
49° 57' N.
145° 00' W.



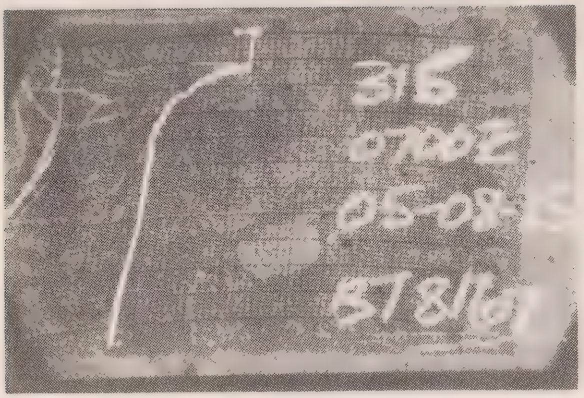
1800 / 30-07-75
49° 57' N.
144° 59' W.



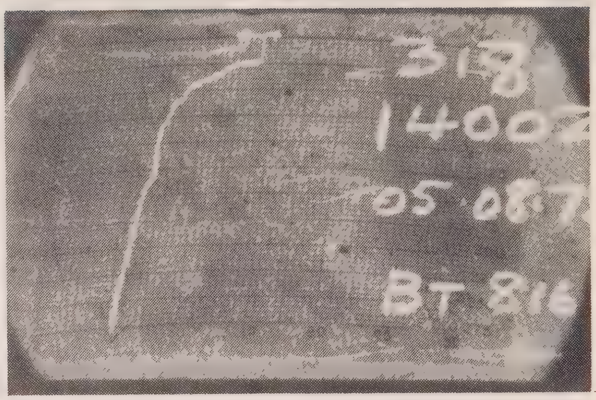
1800 / 31-07-75
50° 01' N.
145° 06' W.



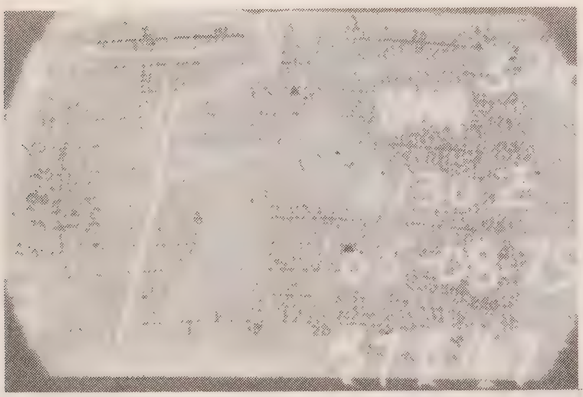
1800 / 01-08-75
49° 59' N.
145° 06' W.



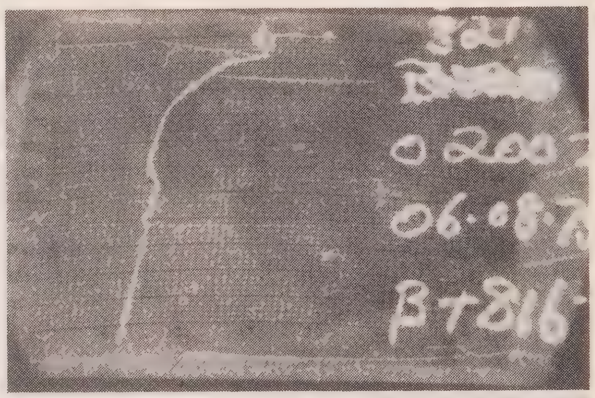
0700 / 05-08-75
49° 10' N.
132° 40' W.



1400 / 05-08-75
49° 02' N.
130° 40' W.

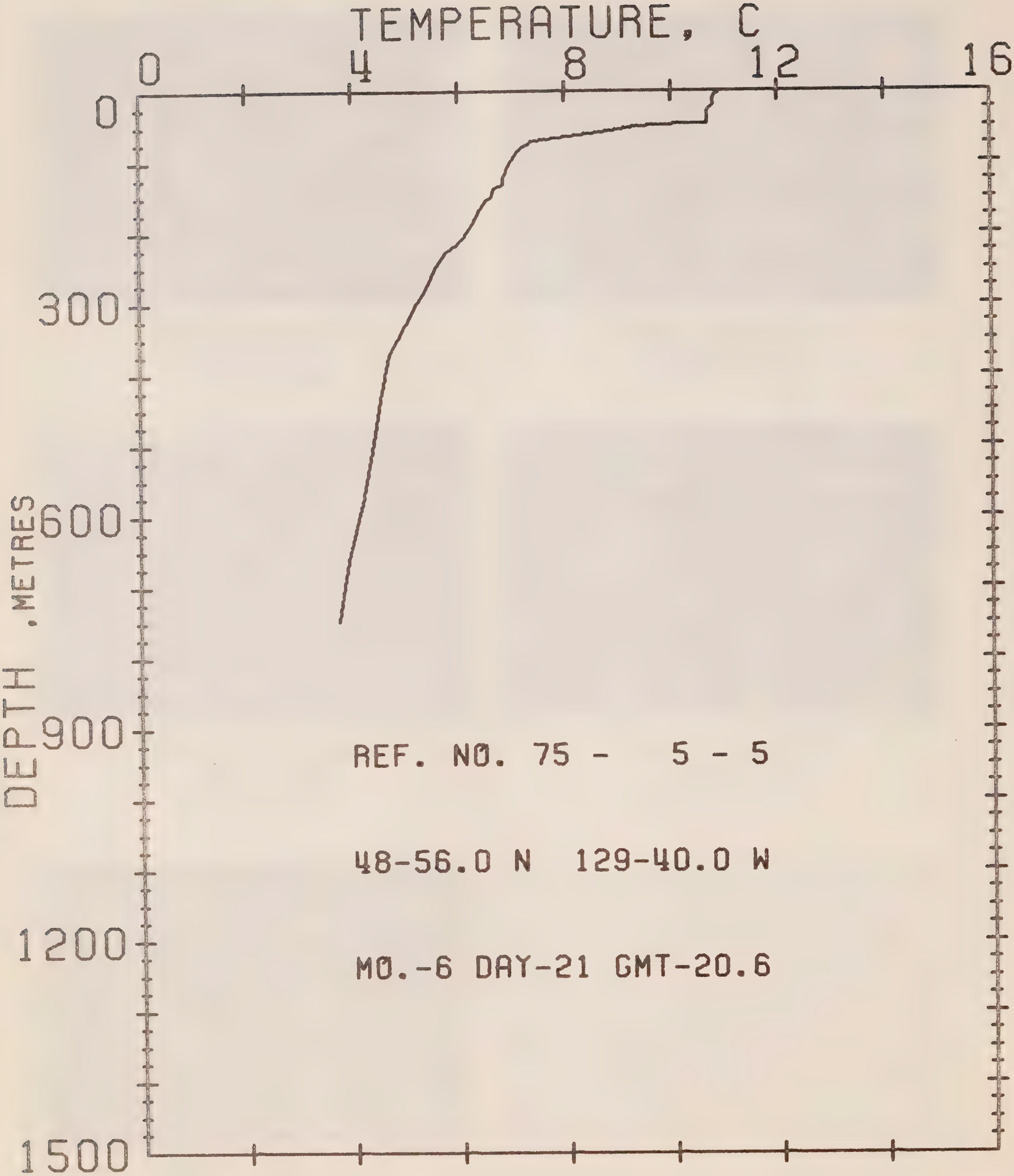


2130 / 05-08-75
48° 51' N.
128° 40' W.



0200 / 06-08-75
48° 47' N.
127° 38' W.

0530 / 06-08-75
48° 42' N.
126° 40' W.


TEMPERATURE, C
0
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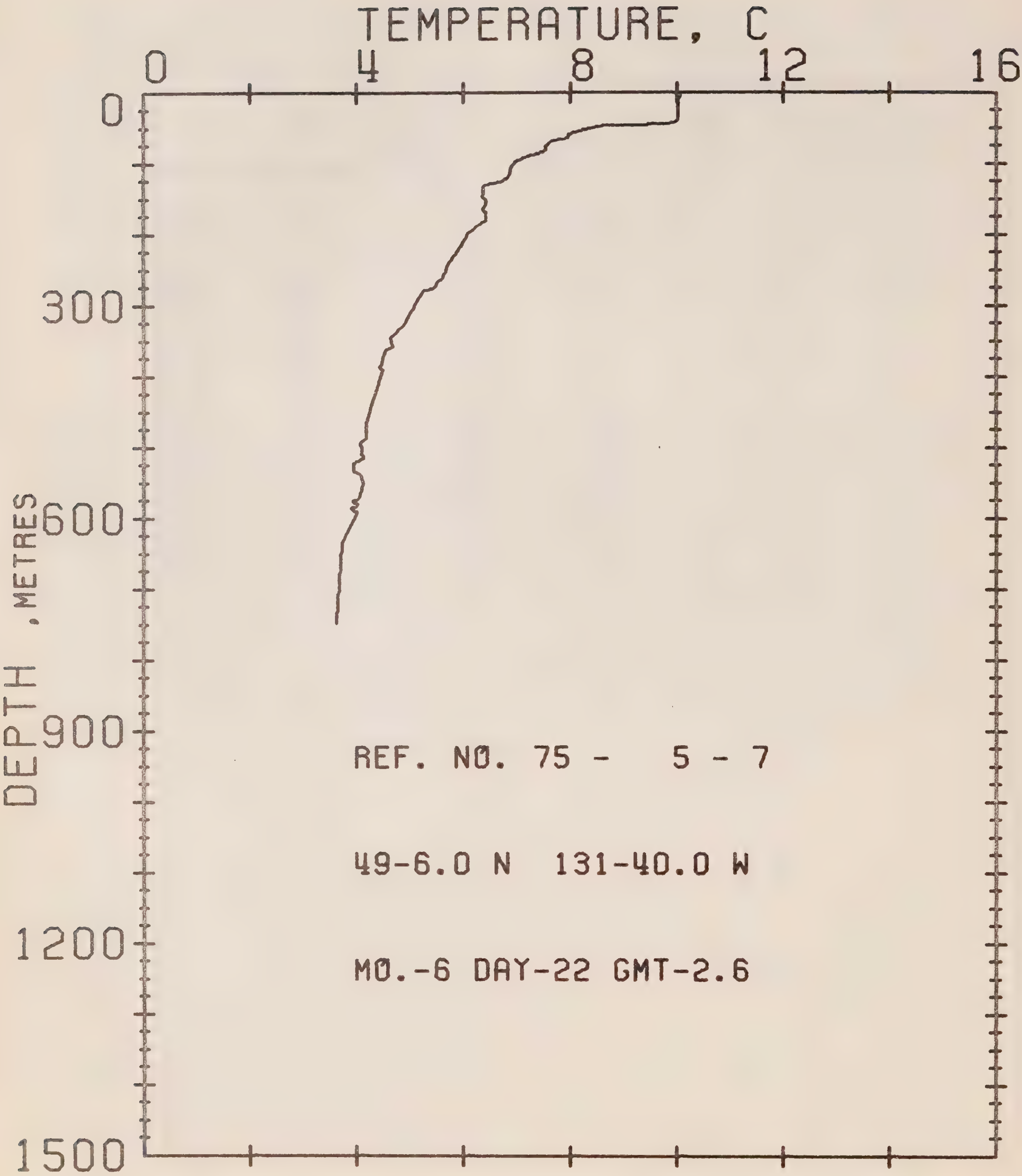
DEPTH .METRES
REF. NO. 75 - 5 - 5
48-56.0 N 129-40.0 W
MO.-6 DAY-21 GMT-20.6

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5- 5 DATE 21/ 6/75
POSITION 48-56.0N 129-40.0W GMT 20.6
RESULTS OF XBT CAST 43 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	10.90	65	7.81	206	6.10
4	10.85	67	7.65	215	5.99
13	10.80	70	7.39	228	5.77
19	10.80	74	7.34	245	5.61
28	10.70	77	7.23	262	5.50
35	10.70	86	7.12	281	5.39
41	10.70	105	6.96	298	5.23
45	10.70	124	6.85	327	5.01
46	10.33	131	6.85	372	4.68
48	9.76	136	6.69	423	4.57
50	9.34	148	6.64	495	4.41
53	9.03	155	6.53	582	4.18
57	8.66	167	6.42	651	3.96
61	8.24	187	6.26	747	3.74
63	8.08				


TEMPERATURE, C
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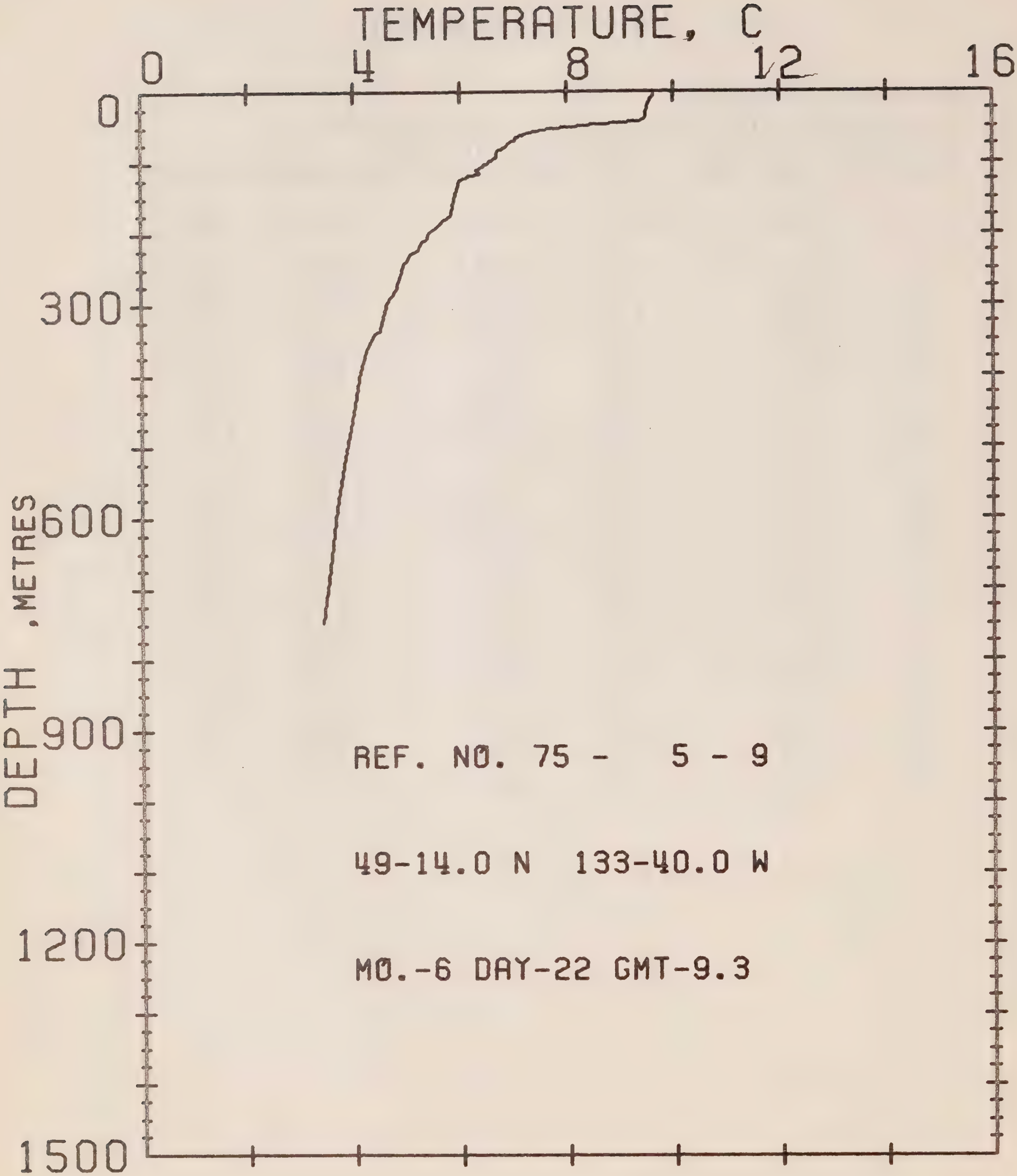
1500
DEPTH ,METRES
REF. NØ. 75 - 5 - 7
49-6.0 N 131-40.0 W
MØ.-6 DAY-22 GMT-2.6

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5- 7 DATE 22/ 6/75
POSITION 49-06.0N 131-40.0W GMT 02.6
RESULTS OF XBT CAST 68 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	10.07	123	6.75	358	4.68
10	10.02	126	6.69	363	4.57
20	10.02	130	6.42	388	4.46
31	10.02	133	6.37	391	4.52
38	10.02	143	6.37	428	4.35
41	9.97	148	6.37	466	4.18
43	9.76	152	6.42	486	4.18
45	9.13	159	6.42	493	4.07
46	8.66	165	6.37	516	4.13
49	8.40	168	6.42	521	3.96
51	8.24	180	6.42	532	3.96
54	8.19	187	6.26	538	4.07
58	7.97	198	6.10	549	4.13
63	7.97	217	5.94	567	4.07
65	7.81	243	5.72	571	4.02
67	7.65	255	5.67	575	3.96
75	7.55	261	5.61	579	4.02
82	7.55	264	5.56	585	3.91
91	7.12	276	5.45	592	4.02
98	6.96	278	5.28	604	3.96
101	6.96	291	5.18	635	3.74
103	6.91	326	4.90	747	3.63
118	6.85	345	4.63		


TEMPERATURE, C
0
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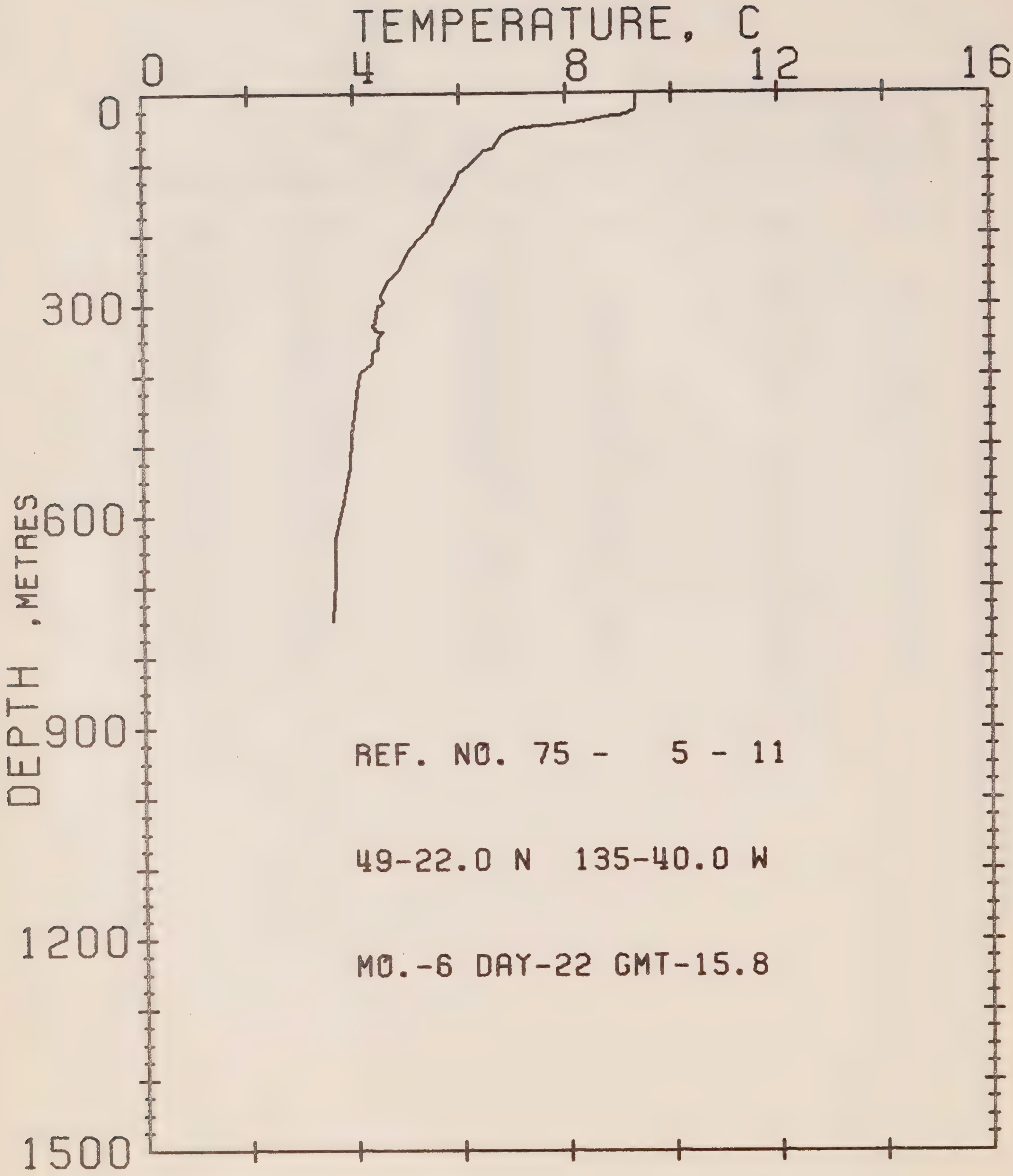
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 9
49-14.0 N 133-40.0 W
MO.-6 DAY-22 GMT-9.3

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5- 9 DATE 22/ 6/75
POSITION 49-14.0N 123-40.0W GMT 09.3
RESULTS OF XBT CAST 52 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	9.66	81	6.75	207	5.39
17	9.55	86	6.69	211	5.28
31	9.50	91	6.69	222	5.23
36	9.50	93	6.64	228	5.07
39	9.45	101	6.53	238	5.01
41	9.34	107	6.37	241	4.96
44	8.98	110	6.32	281	4.79
45	8.61	115	6.37	295	4.63
46	8.55	118	6.15	336	4.52
48	8.29	121	6.15	341	4.41
50	8.08	123	5.99	366	4.24
52	7.65	139	5.94	394	4.13
54	7.55	162	5.88	442	4.02
57	7.28	173	5.83	516	3.85
63	7.07	182	5.67	585	3.68
69	7.01	188	5.61	655	3.57
70	6.96	198	5.45	747	3.41
77	6.85				


TEMPERATURE, C
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16
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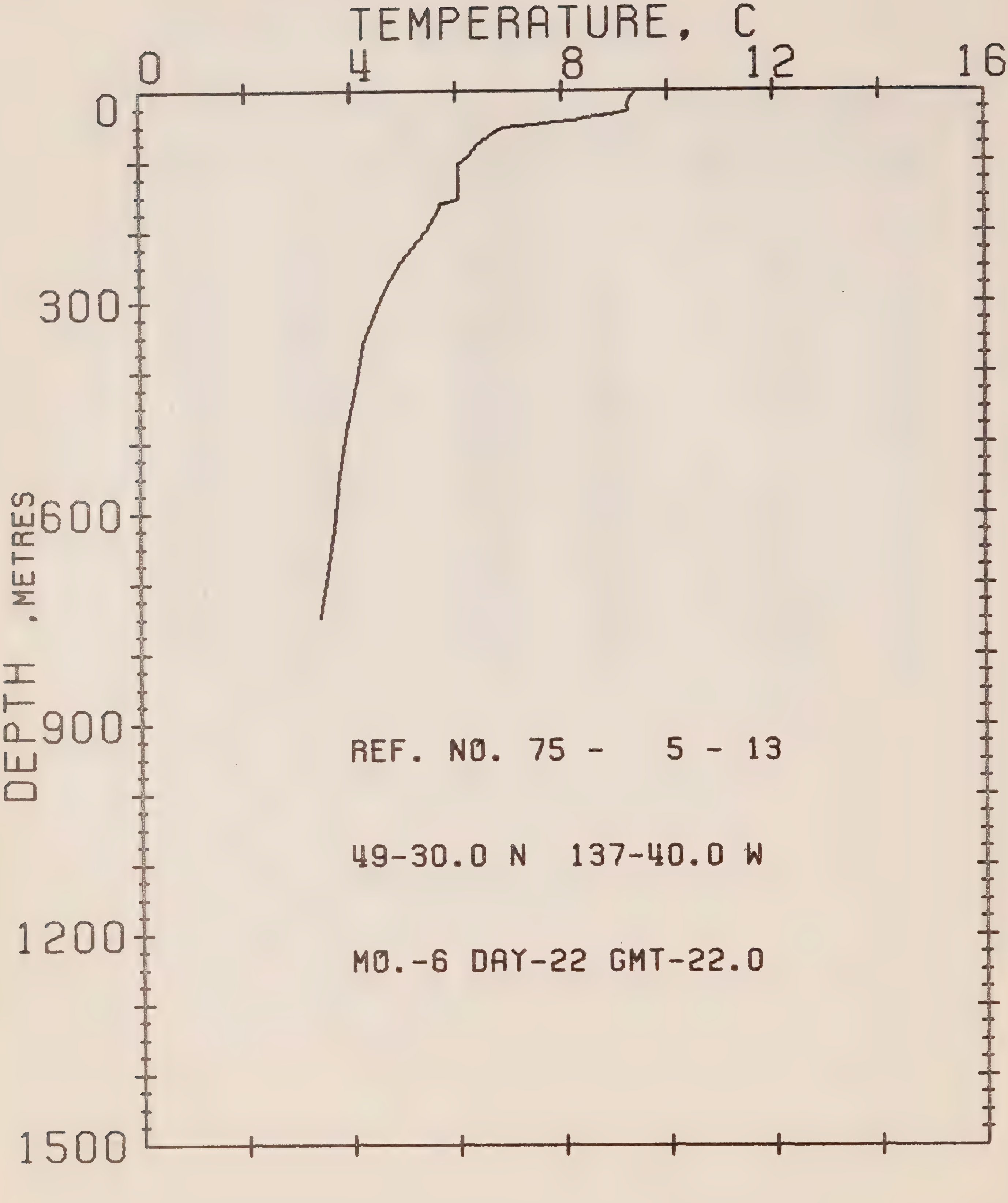
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 11
49-22.0 N 135-40.0 W
MO.-6 DAY-22 GMT-15.8

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5- 11 DATE 22/ 6/75
POSITION 49-22.0N 135-40.0W GMT 15.8
RESULTS OF XBT CAST 55 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	9.34	87	6.37	336	4.41
12	9.34	95	6.26	339	4.57
21	9.34	99	6.21	340	4.52
26	9.29	111	5.99	350	4.46
28	9.19	124	5.94	361	4.46
30	9.19	147	5.77	365	4.41
33	8.71	167	5.61	367	4.35
36	8.61	184	5.50	383	4.35
37	8.40	219	5.07	388	4.24
39	8.34	250	4.85	394	4.13
41	8.08	266	4.63	409	4.07
43	7.97	288	4.52	441	4.02
45	7.55	297	4.57	483	3.96
48	7.18	302	4.46	529	3.91
51	6.96	325	4.41	579	3.80
59	6.80	330	4.35	631	3.63
65	6.75	331	4.35	690	3.63
77	6.64	333	4.41	747	3.57
80	6.48				


TEMPERATURE, C
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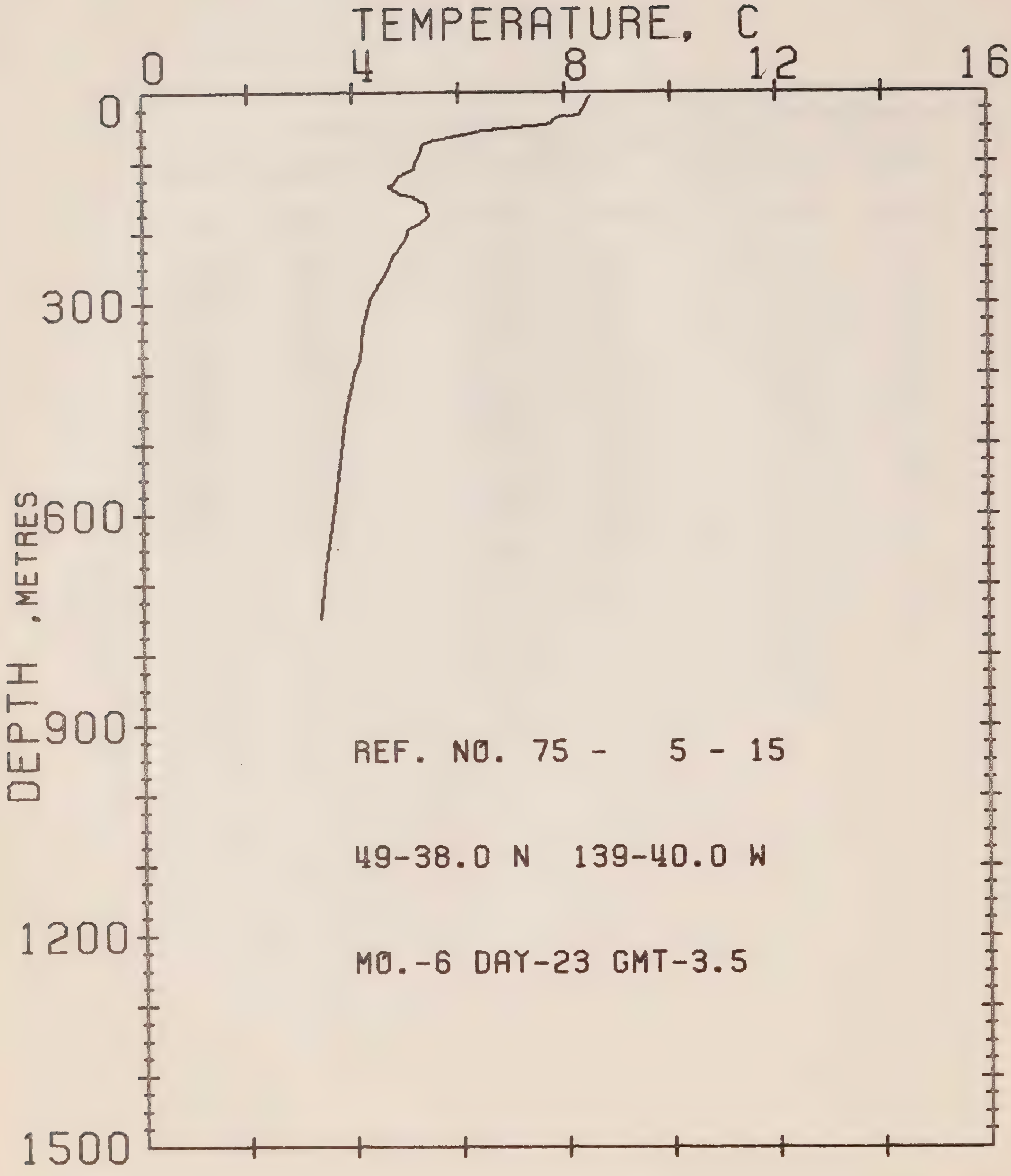
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 13
49-30.0 N 137-40.0 W
MO.-6 DAY-22 GMT-22.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5- 13 DATE 22/ 6/75
POSITION 49-30.0N 137-40.0W GMT 22.0
RESULTS OF XBT CAST 38 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	9.39	55	6.80	200	5.45
8	9.34	63	6.64	224	5.18
18	9.24	75	6.42	244	4.96
24	9.24	91	6.26	277	4.68
28	9.29	103	6.05	310	4.52
30	9.19	126	6.05	359	4.24
33	8.92	141	6.05	410	4.13
38	8.45	148	6.05	474	3.96
42	8.24	153	6.05	544	3.80
44	7.87	159	5.83	621	3.68
46	7.71	163	5.67	700	3.52
49	7.18	167	5.72	747	3.41
52	6.91	180	5.61		


TEMPERATURE, C
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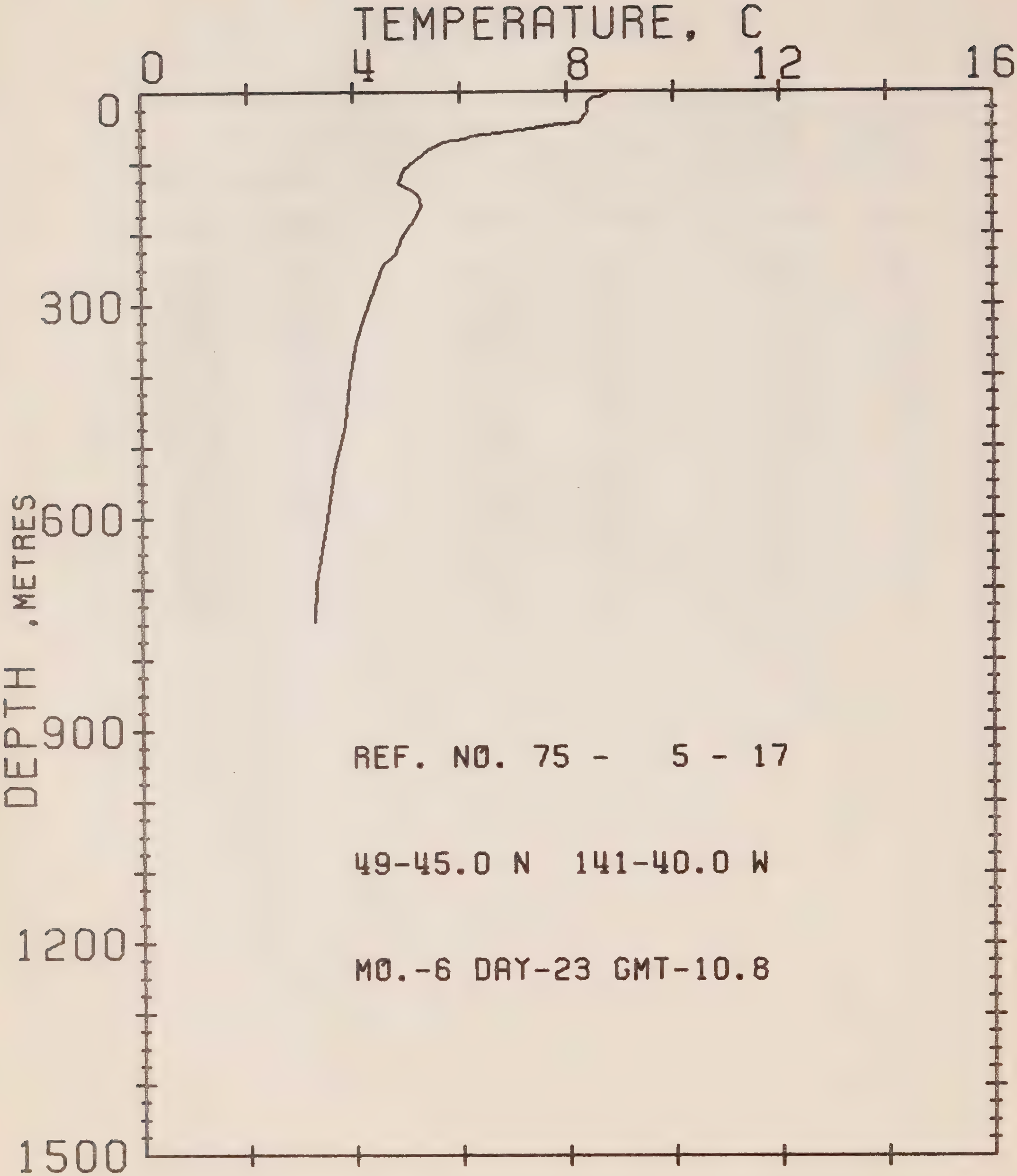
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 15
49-38.0 N 139-40.0 W
MO.-6 DAY-23 GMT-3.5

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5- 15 DATE 23/ 6/75
POSITION 49-38.0N 139-40.0W GMT 03.5
RESULTS OF XBT CAST 45 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
5	8.50	65	5.72	175	5.45
9	8.45	70	5.45	185	5.28
20	8.40	74	5.34	193	5.07
26	8.34	87	5.28	208	5.01
31	8.29	96	5.23	236	4.74
33	8.08	102	5.18	256	4.63
34	7.92	107	5.18	292	4.35
38	7.81	118	4.90	334	4.18
43	7.76	128	4.79	382	4.13
46	7.60	134	4.68	399	4.02
47	7.39	142	4.85	462	3.85
49	7.01	145	4.96	530	3.74
51	6.80	148	5.18	591	3.63
54	6.48	151	5.18	671	3.46
59	6.10	159	5.39	747	3.35


TEMPERATURE, C
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12
16
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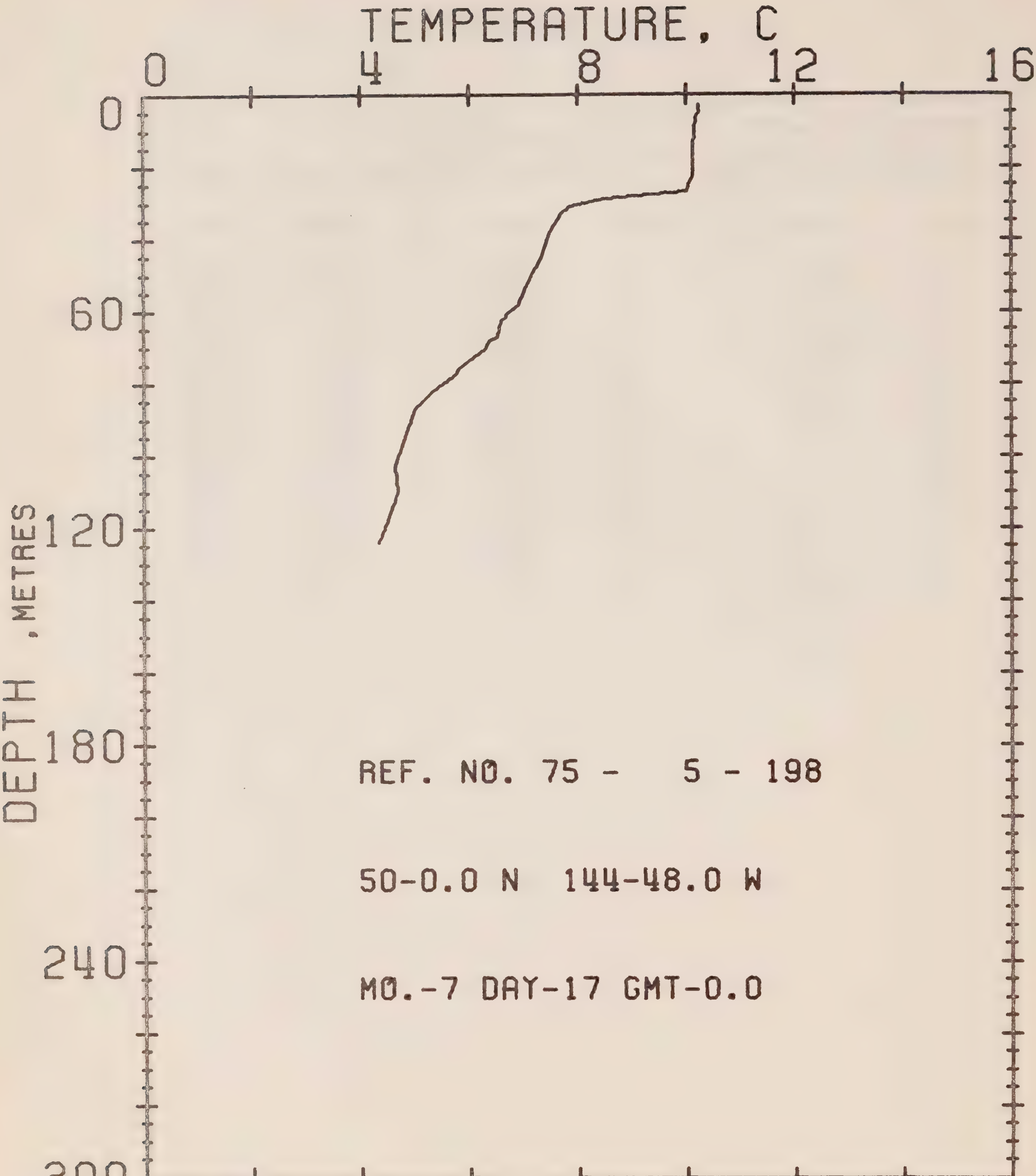
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 17
49-45.0 N 141-40.0 W
MO.-6 DAY-23 GMT-10.8

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5- 17 DATE 23/ 6/75
POSITION 49-45.0N 141-40.0W GMT 10.8
RESULTS OF XBT CAST 40 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	8.77	60	6.48	188	5.07
6	8.66	62	6.21	207	4.90
7	8.61	65	6.10	227	4.79
8	8.50	69	5.72	244	4.57
17	8.40	79	5.45	275	4.41
29	8.40	95	5.18	321	4.18
34	8.34	107	4.96	360	4.02
40	8.29	118	4.90	410	3.91
43	8.24	127	4.85	469	3.85
45	7.87	137	5.12	531	3.63
48	7.65	146	5.23	614	3.46
52	7.34	163	5.28	691	3.29
55	6.91	178	5.18	746	3.24
57	6.69				


TEMPERATURE, C
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8
12
16
0
60
120
180
240
300
DEPTH ,METRES
REF. NO. 75 - 5 - 198
50-0.0 N 144-48.0 W
MO.-7 DAY-17 GMT-0.0

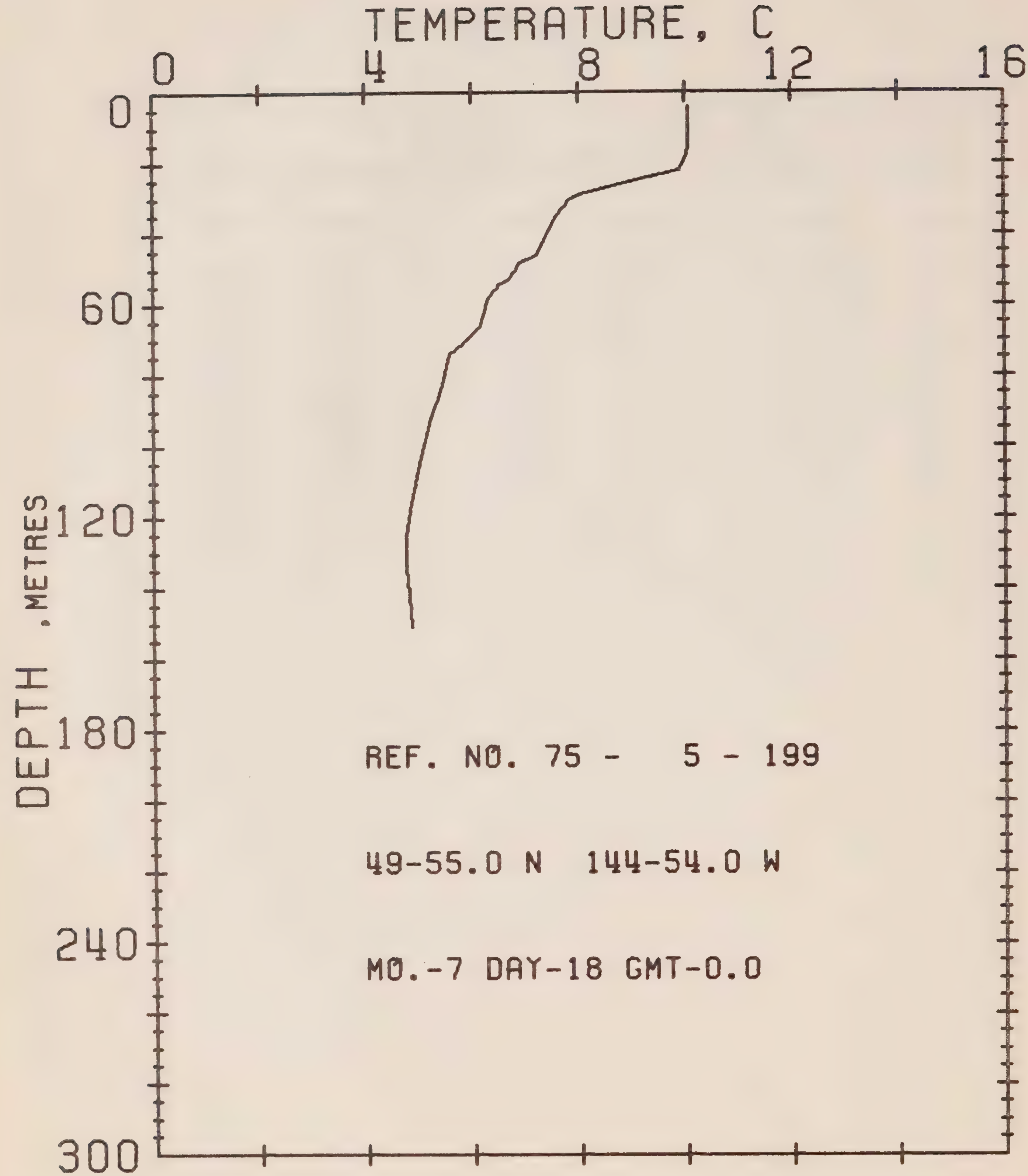
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 75- 5-198 DATE 17/ 7/75

POSITION 50-00.0N 144-48.0W GMT 00.0

RESULTS OF XBT CAST 30 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.23	31	7.87	70	6.32
5	10.23	33	7.71	75	5.88
6	10.18	38	7.50	78	5.72
15	10.13	45	7.34	82	5.34
20	10.13	51	7.12	87	5.01
23	10.13	58	6.91	96	4.79
24	10.07	60	6.75	103	4.63
27	10.02	63	6.59	110	4.68
28	9.03	67	6.53	118	4.52
29	8.50	68	6.37	124	4.35


TEMPERATURE, C
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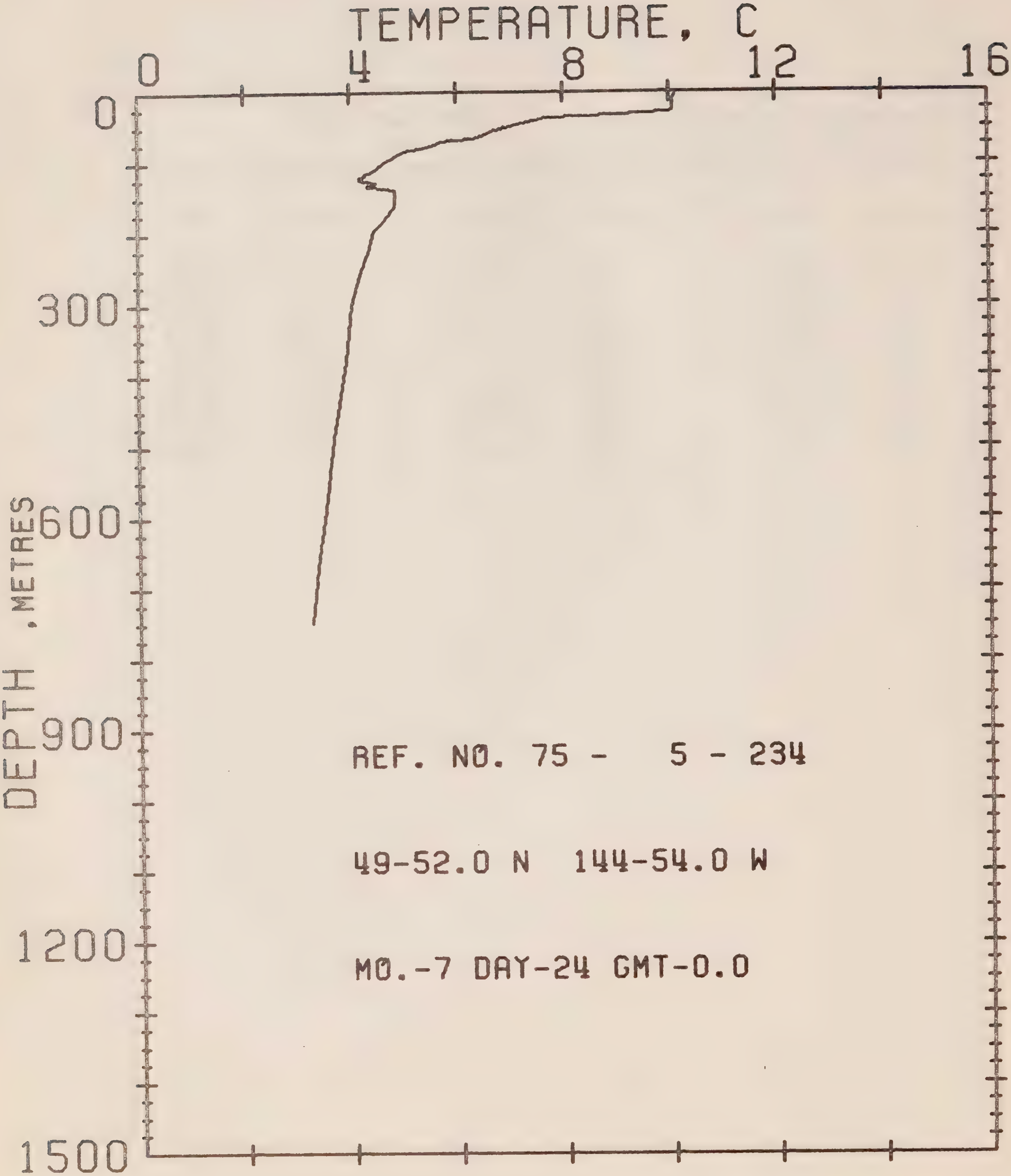
8
12
16
0
60
120
180
240
300
DEPTH ,METRES
REF. NO. 75 - 5 - 199
49-55.0 N 144-54.0 W
MO.-7 DAY-18 GMT-0.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-199 DATE 18/ 7/75
POSITION 49-55.0N 144-54.0W GMT 00.0
RESULTS OF XBT CAST 27 POINTS TAKEN FROM ANALOG TRACE

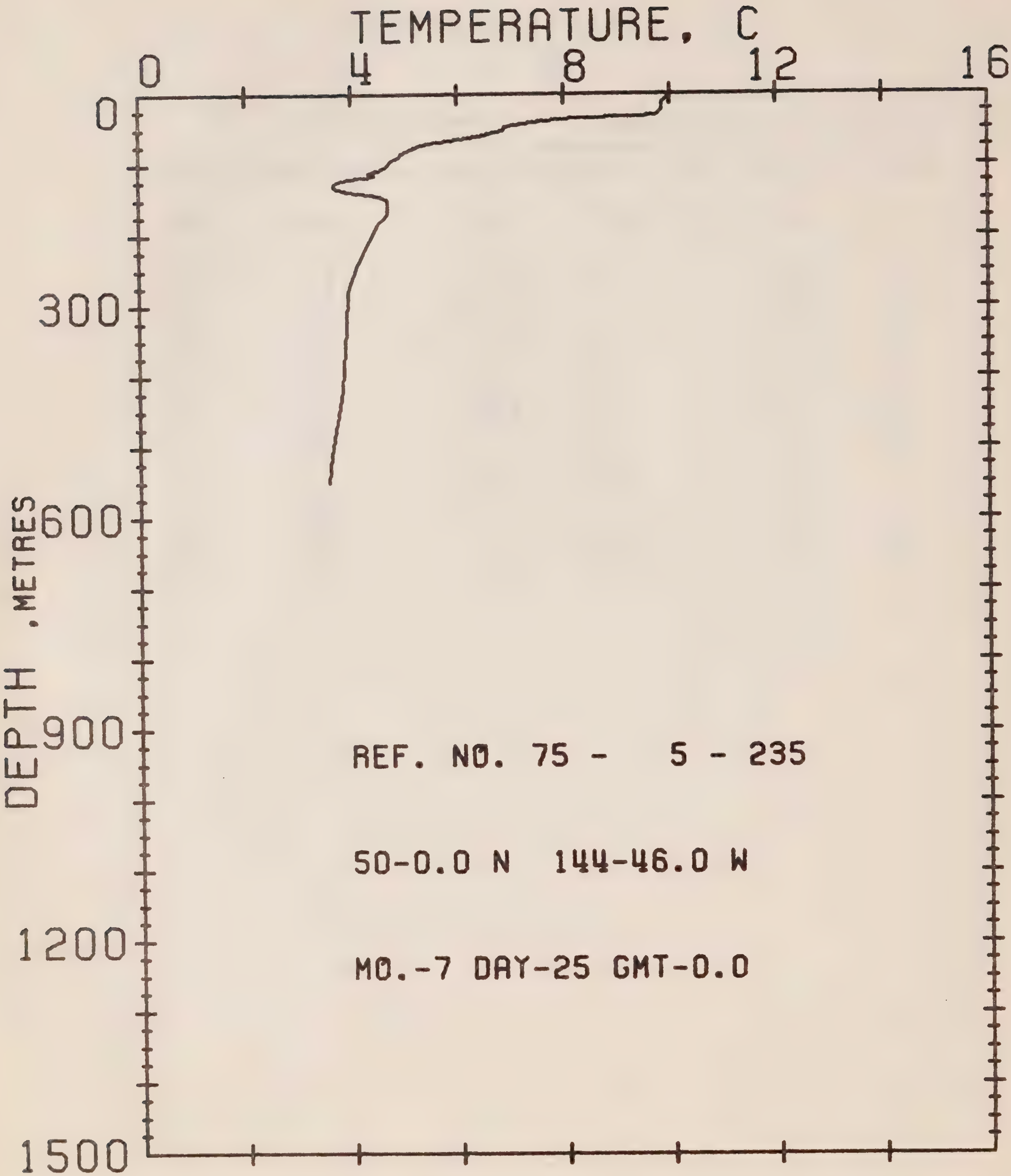
DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	10.07	41	7.39	74	5.56
11	10.07	46	7.23	83	5.45
16	10.07	48	6.91	92	5.23
19	10.02	51	6.80	105	5.01
22	9.92	53	6.69	116	4.85
24	9.34	54	6.53	125	4.74
29	8.03	58	6.32	134	4.74
30	7.87	66	6.15	142	4.79
35	7.60	71	5.83	151	4.85



TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 234
49-52.0 N 144-54.0 W
MO.-7 DAY-24 GMT-0.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-234 DATE 24/ 7/75
POSITION 49-52.0N 144-54.0W GMT 00.0
RESULTS OF XBT CAST 42 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	10.13	70	5.72	133	4.35
12	10.07	74	5.61	135	4.68
18	10.07	79	5.34	138	4.85
23	10.07	81	5.12	160	4.85
26	10.07	86	4.96	182	4.63
28	9.97	99	4.63	195	4.46
31	9.03	109	4.52	225	4.35
35	7.71	113	4.41	258	4.18
41	7.34	116	4.30	300	4.02
47	7.01	118	4.30	378	3.91
56	6.64	121	4.18	488	3.68
61	6.48	124	4.18	587	3.52
65	6.32	128	4.52	670	3.35
67	5.94	132	4.35	747	3.24



TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH .METRES
REF. NO. 75 - 5 - 235
50-0.0 N 144-46.0 W
MO.-7 DAY-25 GMT-0.0

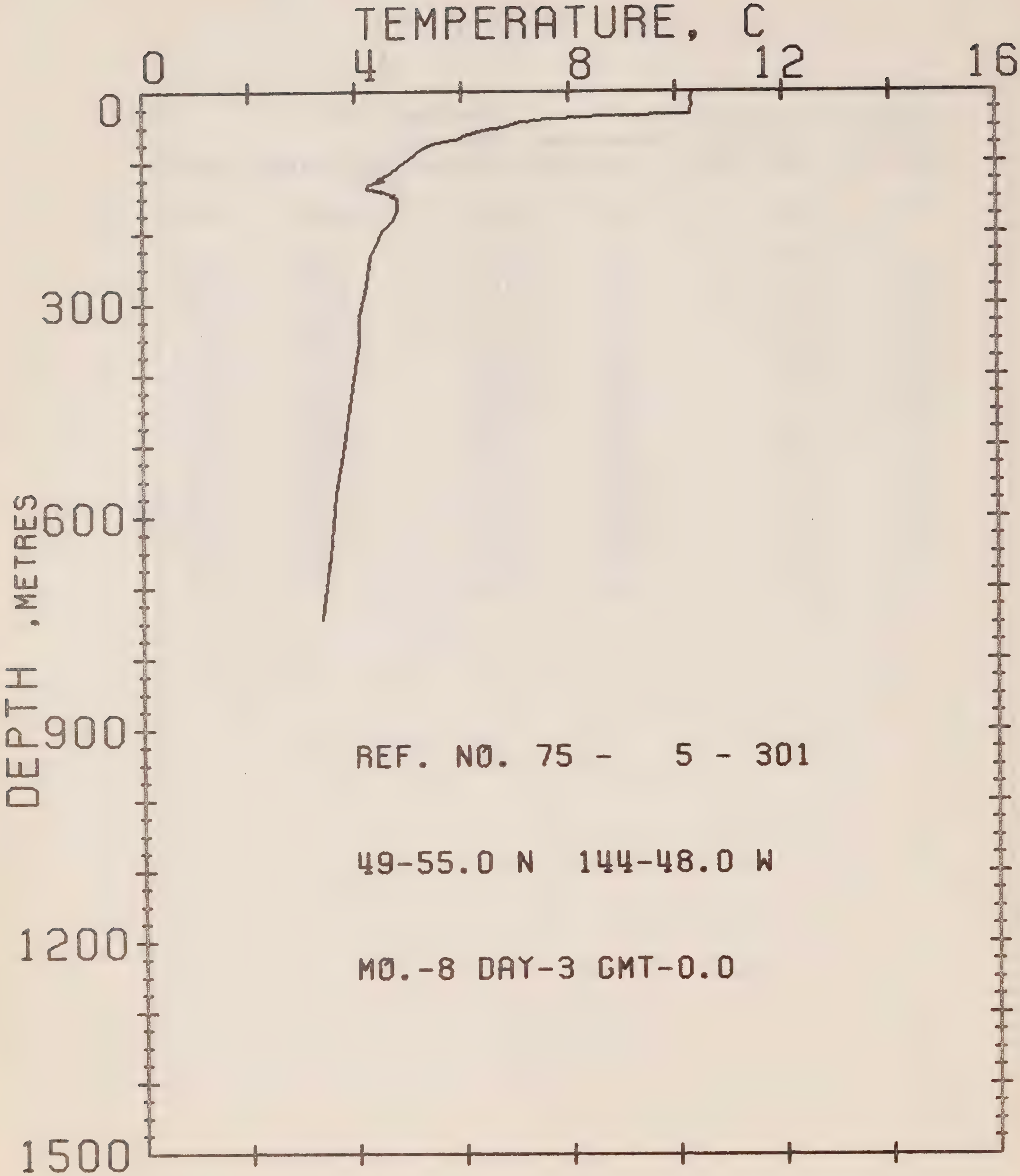
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 75- 5-235 DATE 25/ 7/75

POSITION 50-00.0N 144-46.0W GMT 00.0

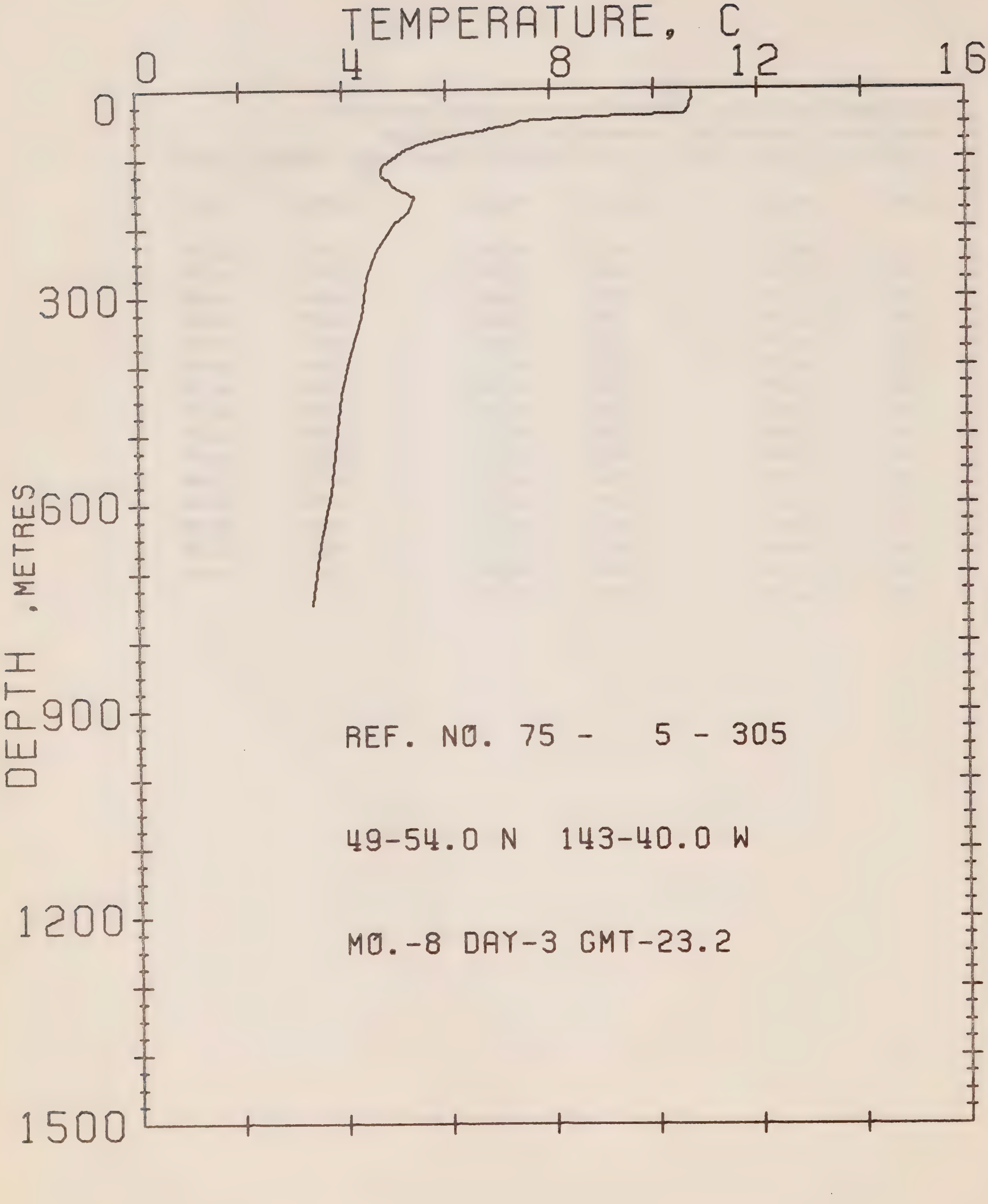
RESULTS OF XBT CAST 44 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	9.97	65	5.83	131	3.68
13	9.86	69	5.45	137	3.96
22	9.86	72	5.34	141	4.35
25	9.81	78	5.12	144	4.57
29	9.76	84	4.96	151	4.68
32	9.34	90	4.90	169	4.68
34	8.24	92	4.79	184	4.52
38	7.60	103	4.63	209	4.35
40	7.39	108	4.52	240	4.13
43	7.07	112	4.35	281	3.96
46	6.91	116	4.46	331	3.91
51	6.85	118	4.18	420	3.85
54	6.69	121	3.96	512	3.63
57	6.48	123	3.74	550	3.57
60	6.37	128	3.68		


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 301
49-55.0 N 144-48.0 W
MO.-8 DAY-3 GMT-0.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-301 DATE 03/ 8/75
POSITION 49-55.0N 144-48.0W GMT 00.0
RESULTS OF XBT CAST 47 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	10.23	65	5.99	150	4.79
11	10.28	69	5.72	170	4.79
20	10.33	74	5.45	184	4.68
27	10.28	79	5.28	197	4.52
31	10.28	95	5.01	217	4.41
34	8.77	105	4.85	234	4.30
36	8.13	114	4.68	260	4.24
37	7.81	123	4.46	286	4.18
38	7.55	126	4.57	318	4.07
40	7.44	130	4.30	355	4.07
42	7.12	134	4.24	417	3.96
46	6.96	137	4.24	499	3.80
50	6.80	140	4.52	567	3.63
52	6.59	143	4.52	655	3.52
55	6.32	146	4.74	743	3.35
62	6.05	148	4.68		


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 305
49-54.0 N 143-40.0 W
MO.-8 DAY-3 GMT-23.2

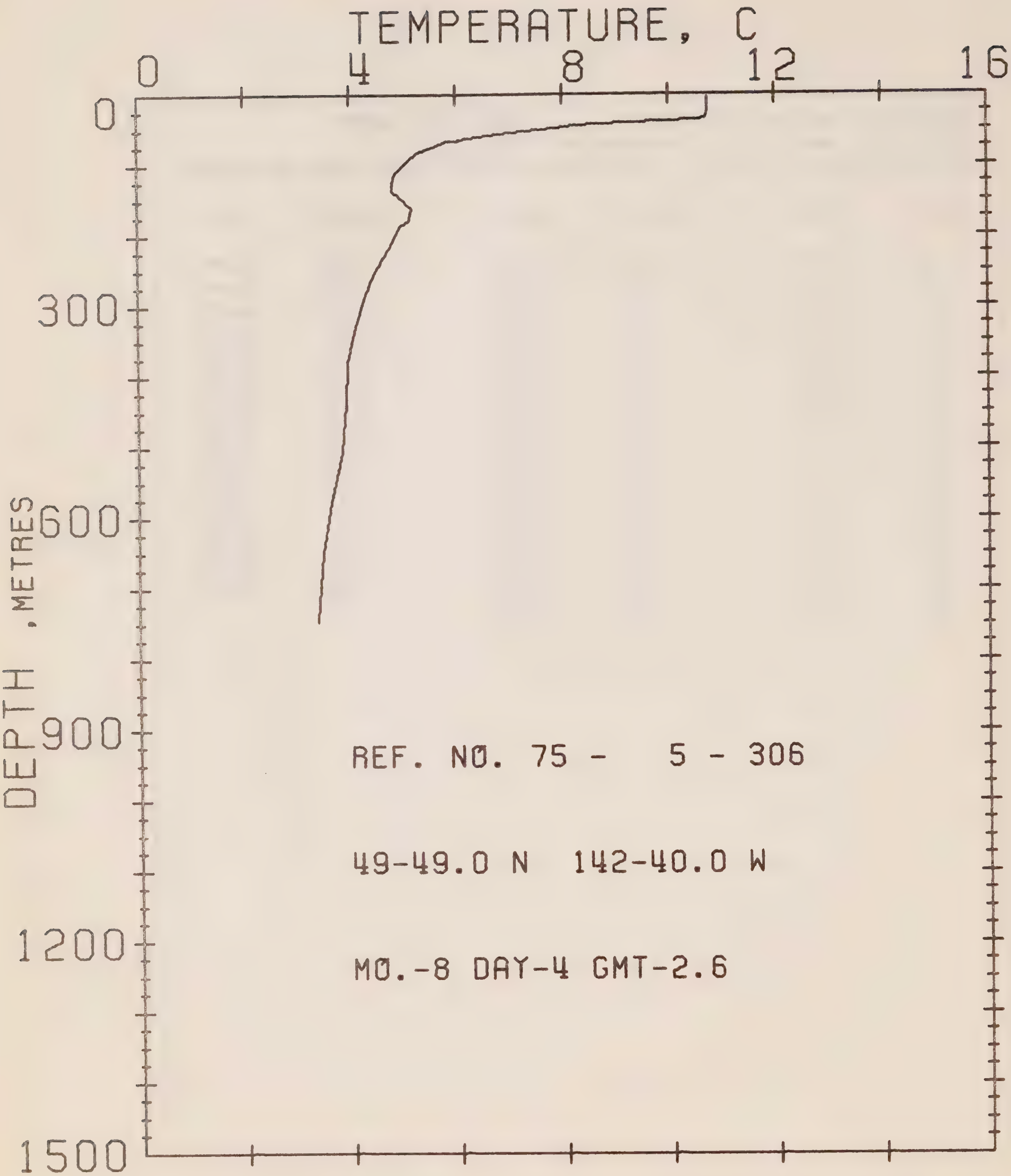
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 75- 5-305 DATE 03/ 8/75

POSITION 49-54.0N 143-40.0W GMT 23.2

RESULTS OF XBT CAST 47 POINTS TAKEN FROM ANALOG TRACE

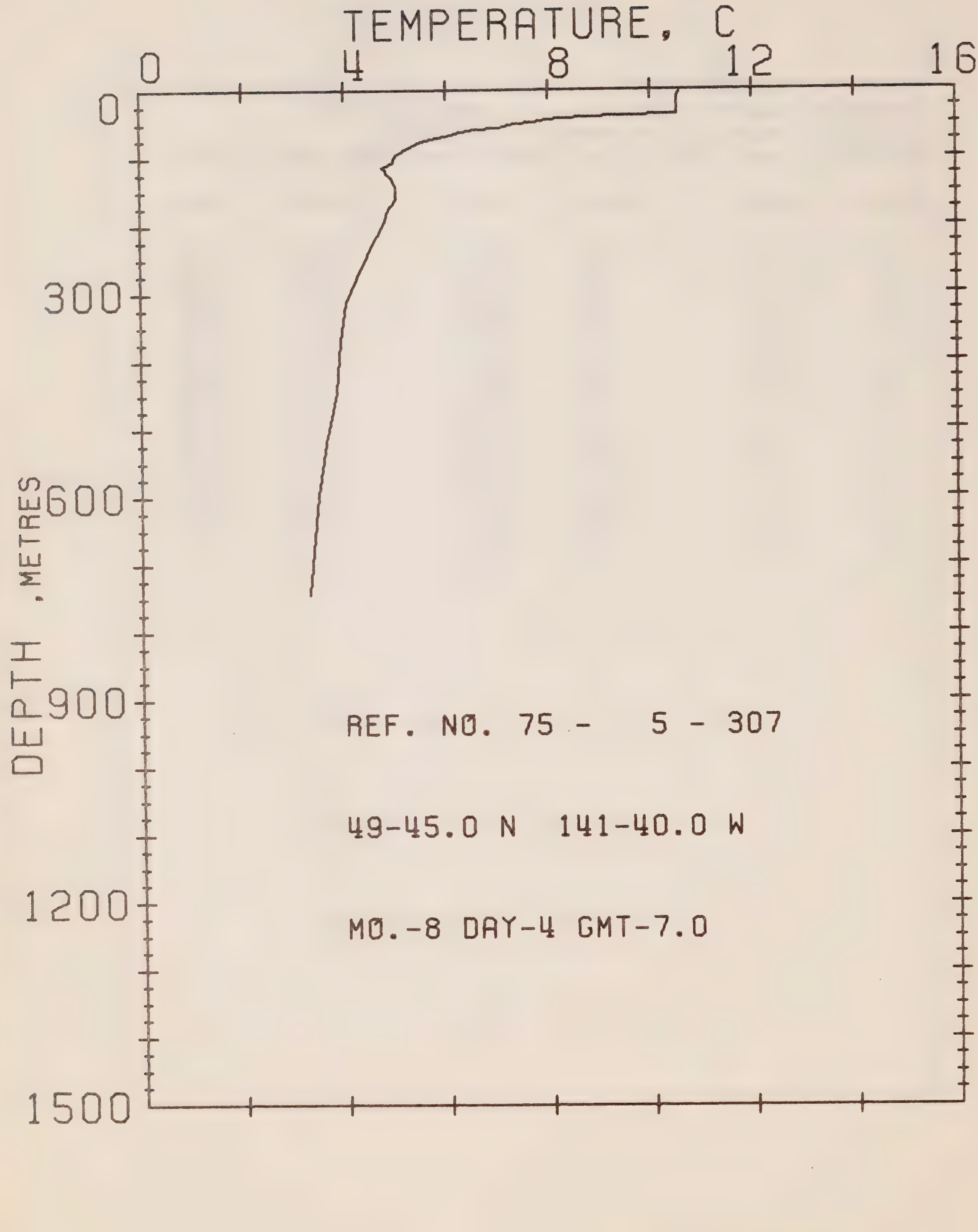
DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.75	56	6.85	156	5.39
12	10.75	59	6.69	167	5.34
17	10.75	62	6.42	175	5.28
19	10.70	64	6.32	179	5.23
22	10.70	68	6.05	192	5.01
27	10.70	73	5.72	210	4.85
31	10.64	77	5.50	234	4.63
34	10.64	88	5.18	272	4.46
36	10.54	99	4.96	329	4.35
38	9.50	109	4.79	383	4.13
39	8.87	116	4.74	442	3.96
41	8.34	123	4.74	512	3.85
44	7.76	131	4.90	583	3.74
46	7.44	139	4.96	660	3.52
51	7.23	146	5.12	746	3.35
53	7.01	151	5.28		



TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NØ. 75 - 5 - 306
49-49.0 N 142-40.0 W
MØ.-8 DAY-4 GMT-2.6

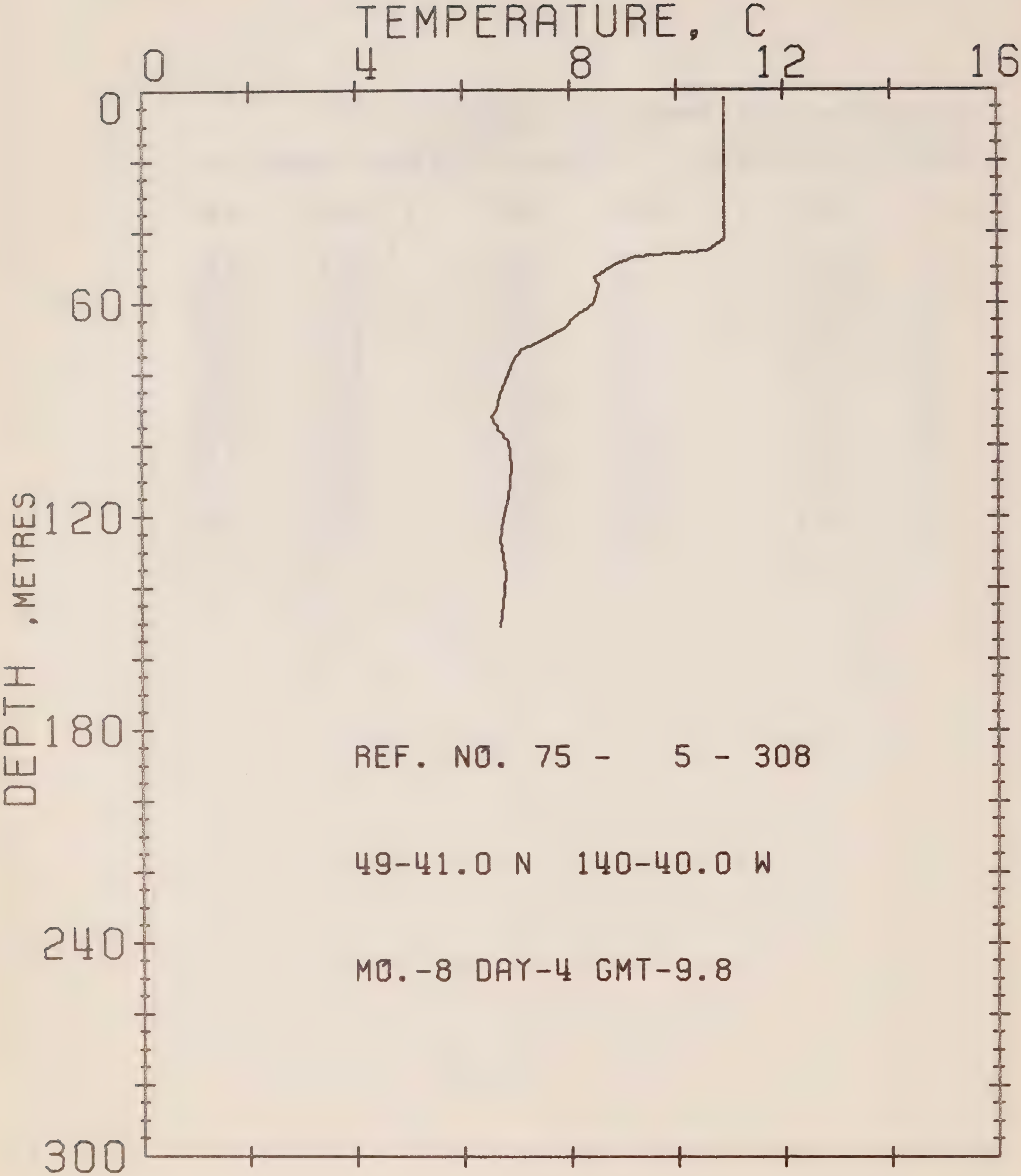
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-306 DATE 04/ 8/75
POSITION 49-49.0N 142-40.0W GMT 02.6
RESULTS OF XBT CAST 41 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	10.75	61	6.21	177	5.12
15	10.75	63	6.05	186	4.96
23	10.75	65	6.05	209	4.79
28	10.75	66	5.83	231	4.63
33	10.70	73	5.56	263	4.41
36	10.54	81	5.28	297	4.24
40	9.29	91	5.12	335	4.07
41	8.66	100	5.01	379	3.96
44	8.24	112	4.85	437	3.91
45	8.03	125	4.79	506	3.85
48	7.87	136	4.79	577	3.63
52	7.28	143	4.90	648	3.46
56	6.80	154	5.07	745	3.35
59	6.42	162	5.18		


TEMPERATURE, C
0
4
8
12
16
DEPTH ,METRES
0
300
600
900
1200
1500
REF. NO. 75 - 5 - 307
49-45.0 N 141-40.0 W
MO.-8 DAY-4 GMT-7.0

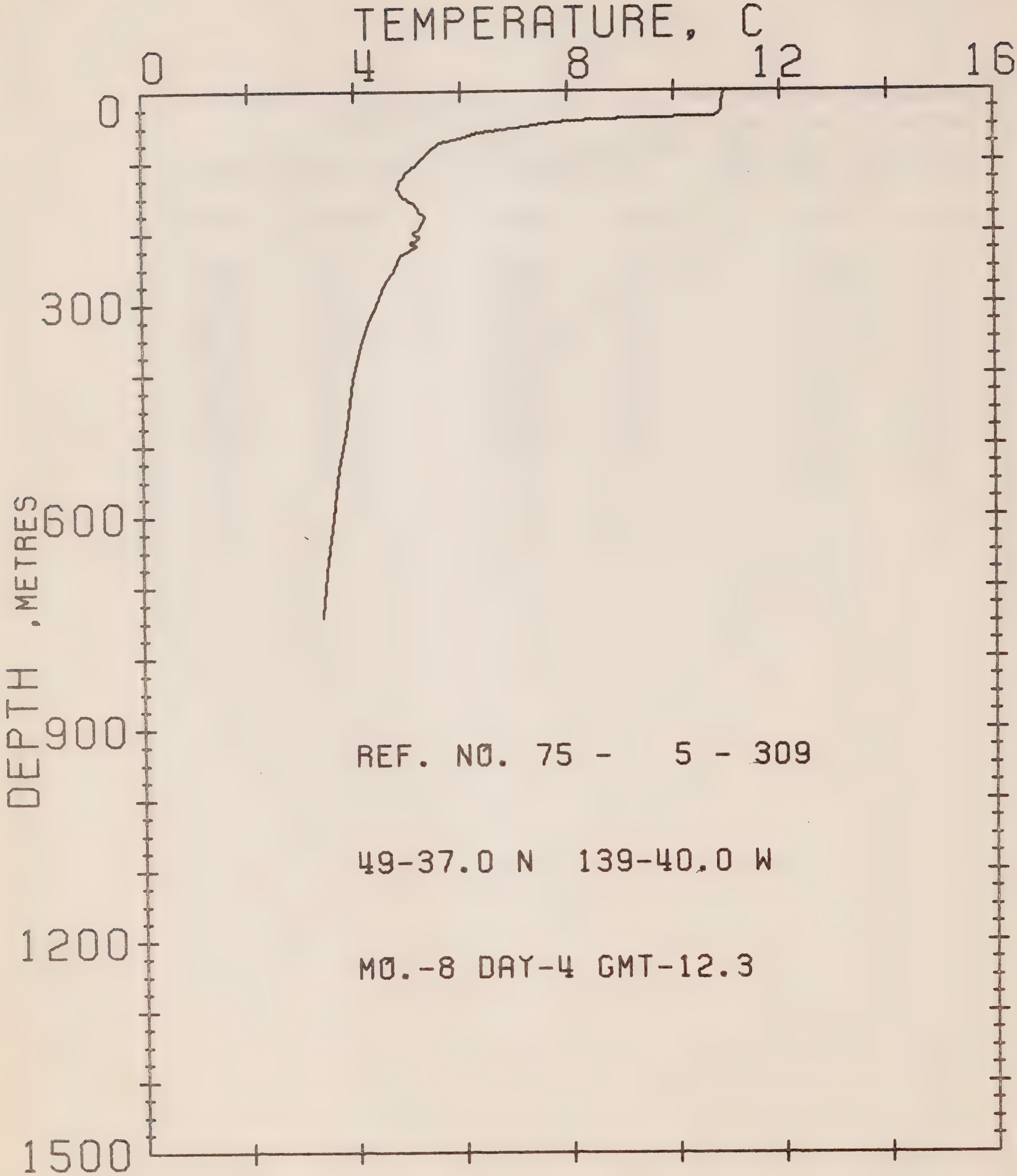
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-307 DATE 04/ 8/75
POSITION 49-45.0N 141-40.0W GMT 07.0
RESULTS OF XBT CAST 36 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	10.59	57	6.53	163	5.01
12	10.54	59	6.42	178	4.85
25	10.54	61	6.26	193	4.79
32	10.54	65	6.10	216	4.63
35	10.54	69	5.83	244	4.46
38	9.39	76	5.50	277	4.24
39	8.77	86	5.23	315	4.02
41	8.24	96	5.01	370	3.91
44	7.97	106	4.96	445	3.85
47	7.71	114	4.74	520	3.63
50	7.34	128	4.90	597	3.46
55	7.01	143	5.01	743	3.29


TEMPERATURE, C
0
4
8
12
16
0
60
120
180
240
300
DEPTH ,METRES
REF. NO. 75 - 5 - 308
49-41.0 N 140-40.0 W
MO.-8 DAY-4 GMT-9.8

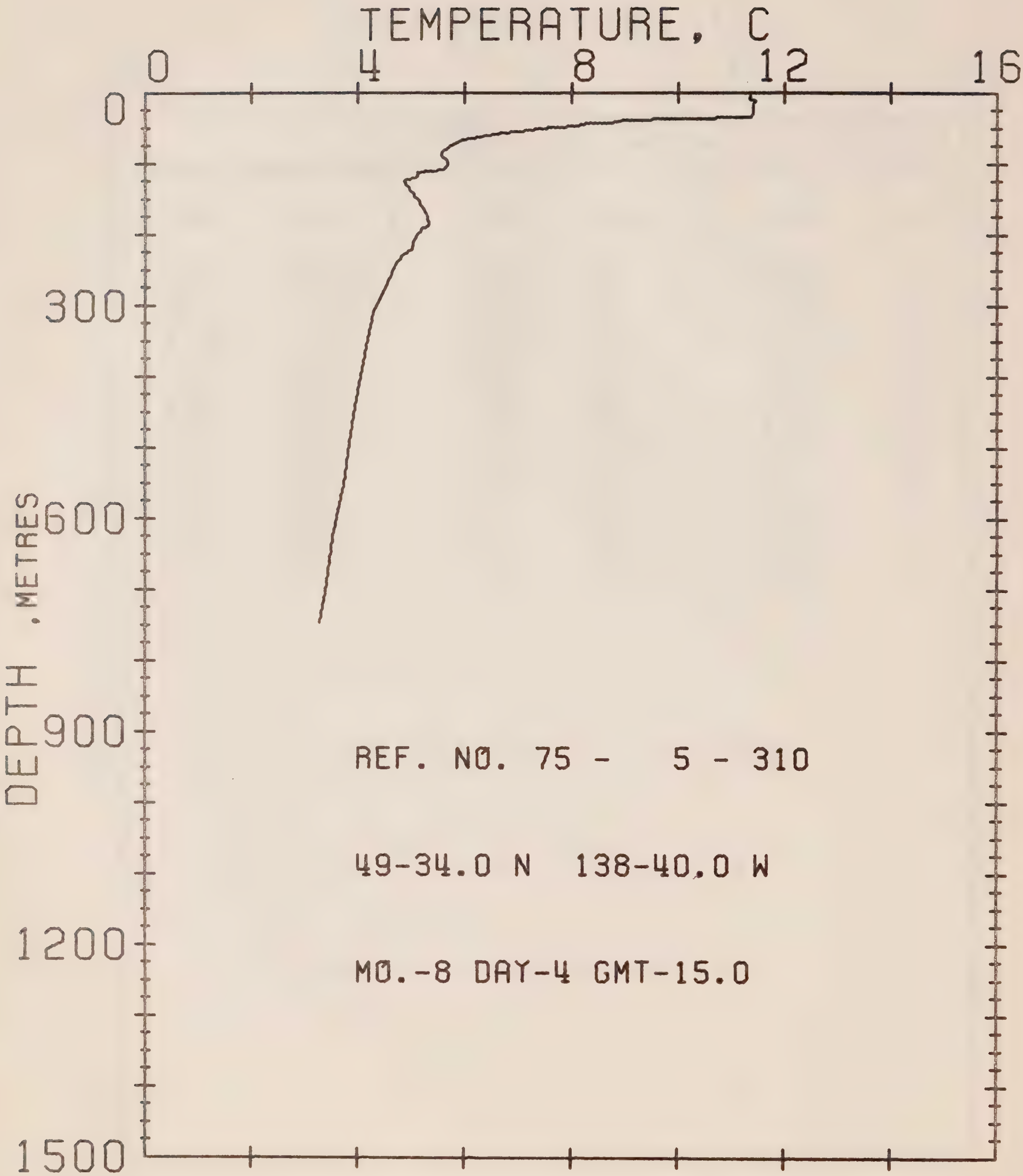
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-308 DATE 04/ 8/75
POSITION 49-41.0N 140-40.0W GMT 09.8
RESULTS OF XBT CAST 28 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	10.90	64	8.08	96	6.69
26	10.90	67	7.92	99	6.85
42	10.90	71	7.44	106	6.91
45	10.59	73	7.12	115	6.85
47	9.24	76	6.96	121	6.75
49	8.87	82	6.80	127	6.69
51	8.66	86	6.69	136	6.80
53	8.45	90	6.64	145	6.75
55	8.55	92	6.53	151	6.69
60	8.45				


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 309
49-37.0 N 139-40.0 W
MO.-8 DAY-4 GMT-12.3

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-309 DATE 04/ 8/75
POSITION 49-37.0N 139-40.0W GMT 12.3
RESULTS OF XBT CAST 41 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	10.95	72	5.61	217	5.18
18	10.90	81	5.45	232	4.85
27	10.90	98	5.23	252	4.74
32	10.85	111	5.01	273	4.57
35	10.75	126	4.85	301	4.41
37	9.29	139	4.79	328	4.24
40	8.61	148	4.90	352	4.13
42	8.03	159	5.12	408	3.96
46	7.55	171	5.23	472	3.85
48	7.34	178	5.34	532	3.68
50	7.23	191	5.23	601	3.57
54	6.75	200	5.12	662	3.46
58	6.32	207	5.23	742	3.35
66	5.99	214	5.07		


TEMPERATURE, C
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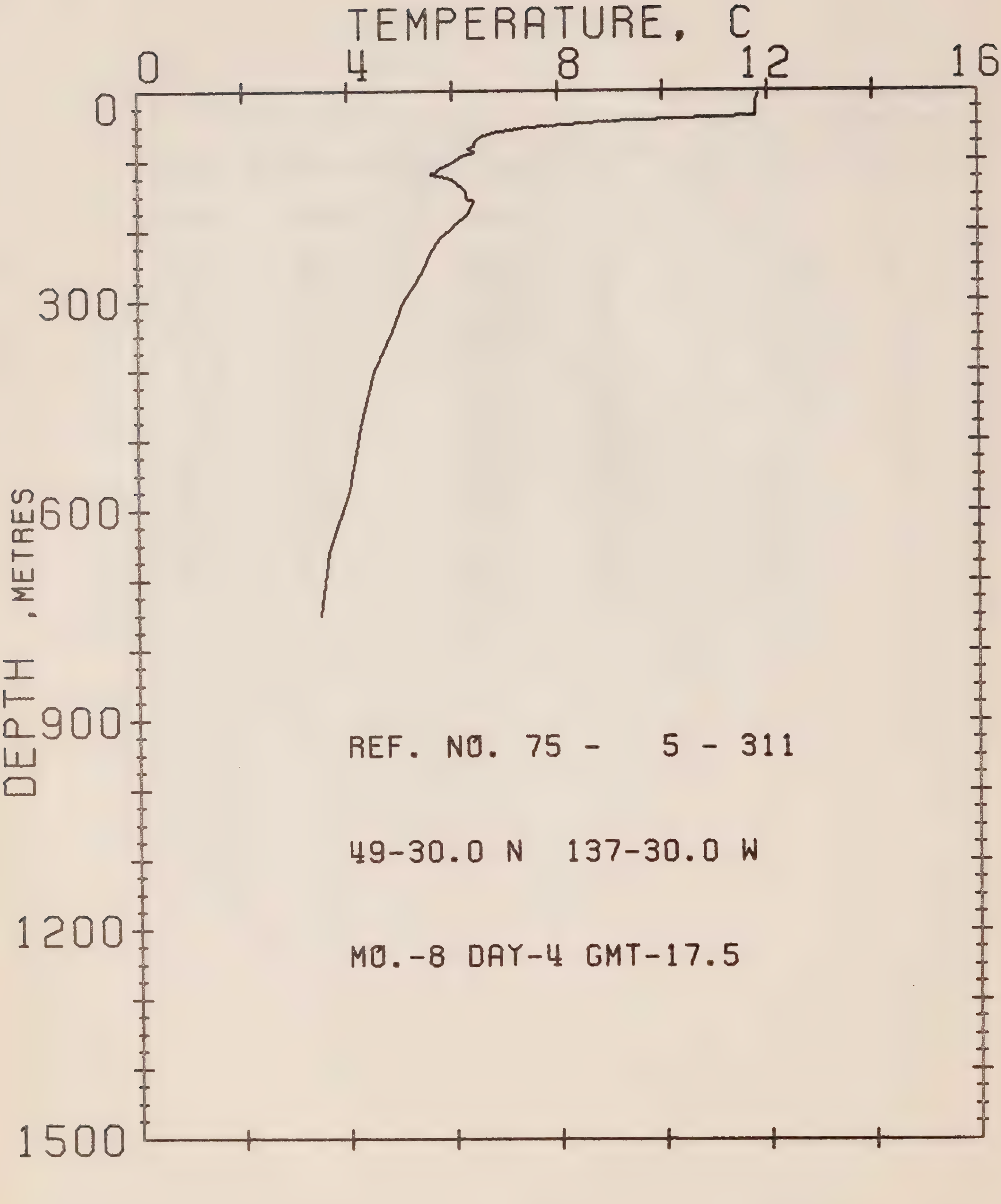
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 310
49-34.0 N 138-40.0 W
MO.-8 DAY-4 GMT-15.0

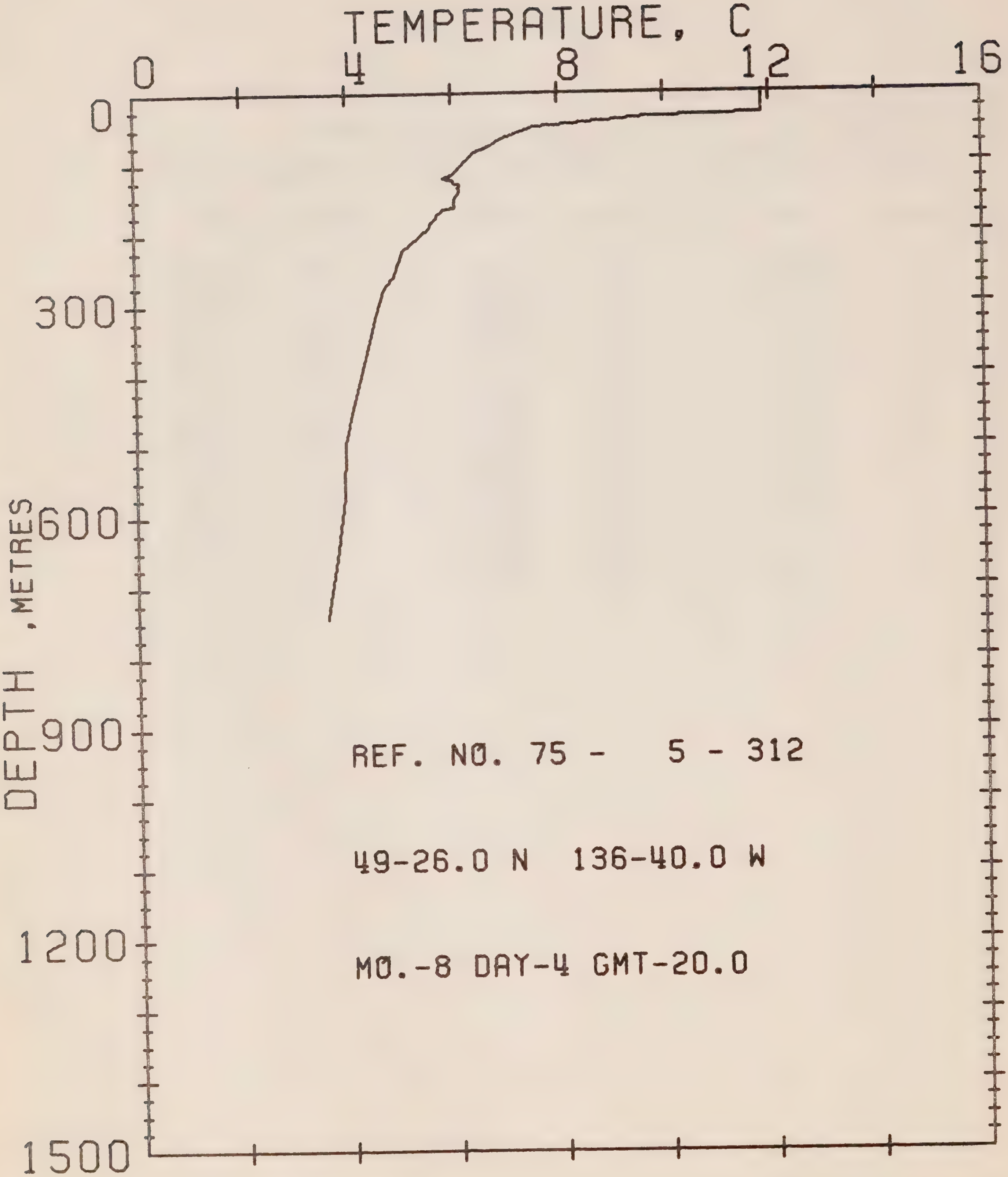
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-310 DATE 04/ 8/75
POSITION 49-34.0N 138-40.0W GMT 15.0
RESULTS OF XBT CAST 45 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	11.37	61	6.26	190	5.23
7	11.37	66	5.94	207	5.07
11	11.47	76	5.72	219	5.01
16	11.42	84	5.56	227	4.85
24	11.42	87	5.56	243	4.68
29	11.42	95	5.67	277	4.52
33	11.37	102	5.67	310	4.30
35	10.02	109	5.61	349	4.18
37	8.98	113	5.12	391	4.07
41	8.71	118	5.12	442	3.96
42	8.29	124	4.85	493	3.85
45	8.08	140	5.01	551	3.74
49	7.34	151	5.12	625	3.52
51	7.23	169	5.28	692	3.41
56	6.69	185	5.34	746	3.29


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NØ. 75 - 5 - 311
49-30.0 N 137-30.0 W
MØ.-8 DAY-4 GMT-17.5

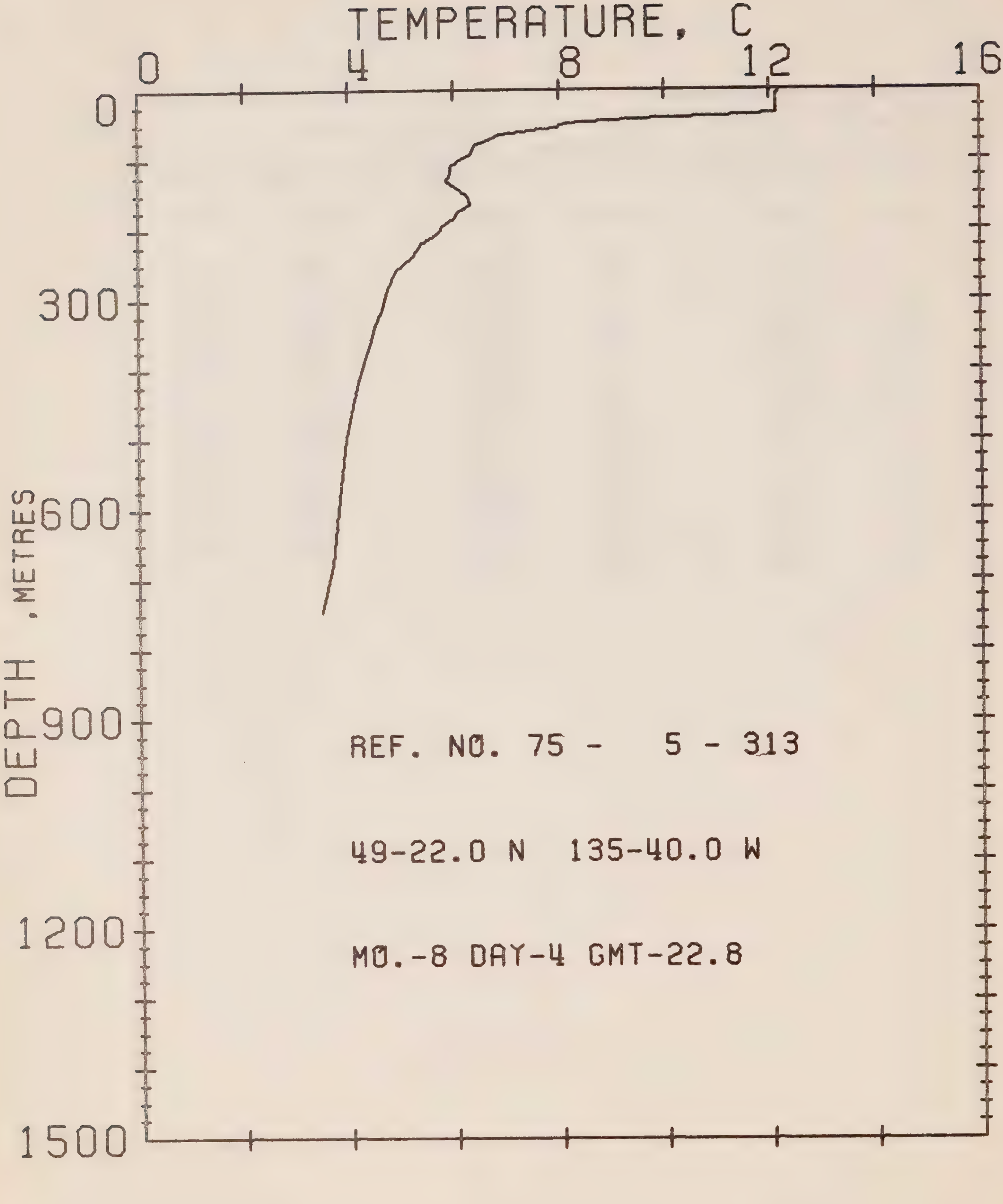
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-311 DATE 04/ 8/75
POSITION 49-30.0N 137-30.0W GMT 17.5
RESULTS OF XBT CAST 41 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	11.83	82	6.32	174	6.32
16	11.78	87	6.42	191	6.05
29	11.78	91	6.21	212	5.77
36	11.78	100	6.05	234	5.56
40	10.23	113	5.77	250	5.50
43	8.87	116	5.67	278	5.28
51	7.44	120	5.61	302	5.07
54	7.18	122	5.77	344	4.85
56	7.12	126	5.99	402	4.52
58	6.85	130	6.05	482	4.24
62	6.69	140	6.21	572	4.02
66	6.53	147	6.26	660	3.63
74	6.42	153	6.26	749	3.46
78	6.42	158	6.42		


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 312
49-26.0 N 136-40.0 W
MO.-8 DAY-4 GMT-20.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-312 DATE 04/ 8/75
POSITION 49-26.0N 136-40.0W GMT 20.0
RESULTS OF XBT CAST 41 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	11.88	75	6.69	184	5.61
17	11.88	84	6.42	190	5.56
25	11.88	95	6.26	202	5.39
29	11.88	107	6.10	222	5.07
31	10.85	116	5.99	256	4.90
34	9.76	119	5.83	278	4.68
35	9.39	122	5.99	326	4.52
37	9.24	132	6.15	375	4.35
40	8.77	134	6.10	436	4.13
43	8.24	139	6.15	496	3.96
46	7.87	144	6.10	571	3.91
47	7.55	150	6.05	645	3.80
53	7.34	161	6.05	744	3.57
63	6.96	164	5.83		



TEMPERATURE, C
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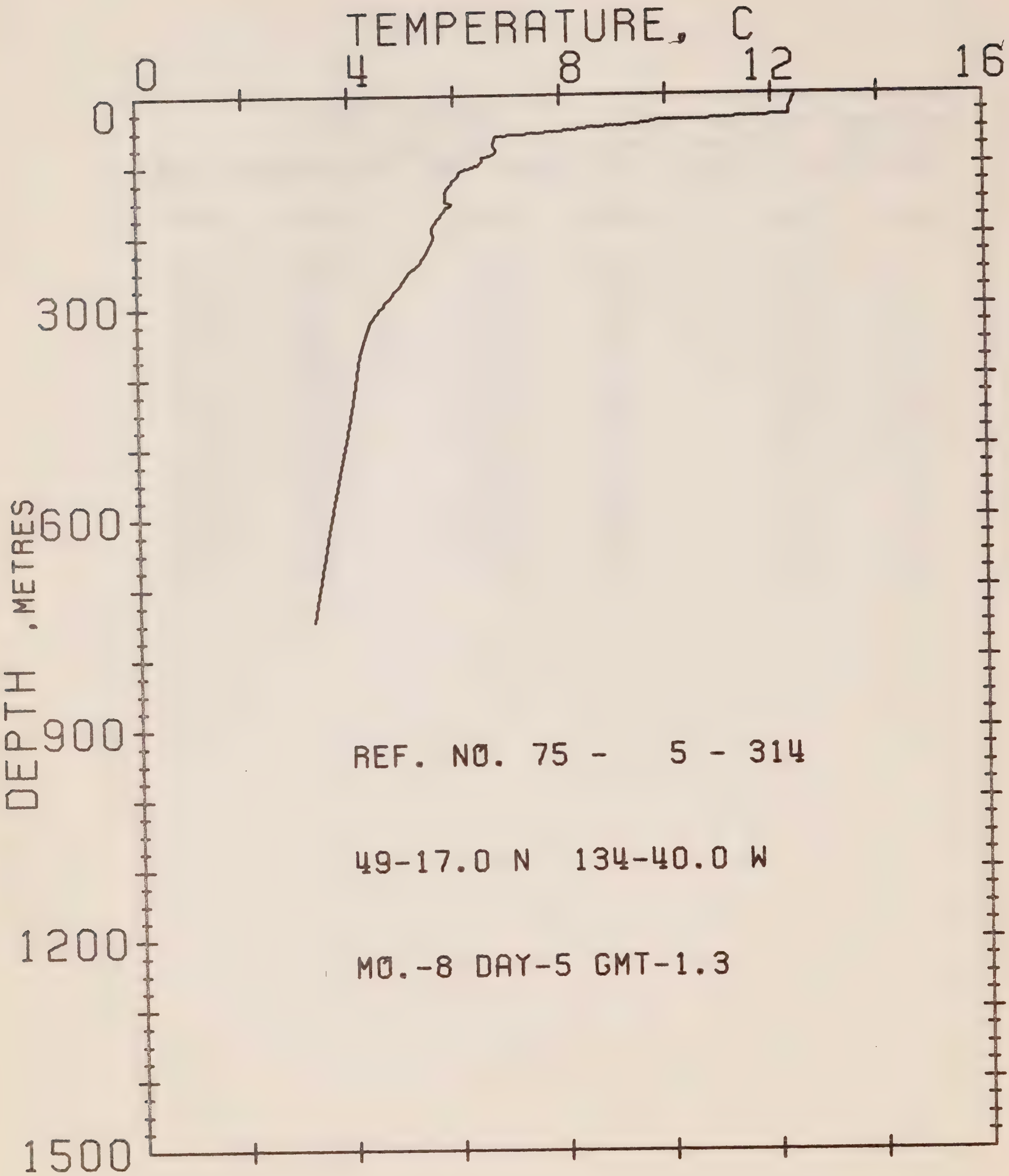
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 313
49-22.0 N 135-40.0 W
MO.-8 DAY-4 GMT-22.8

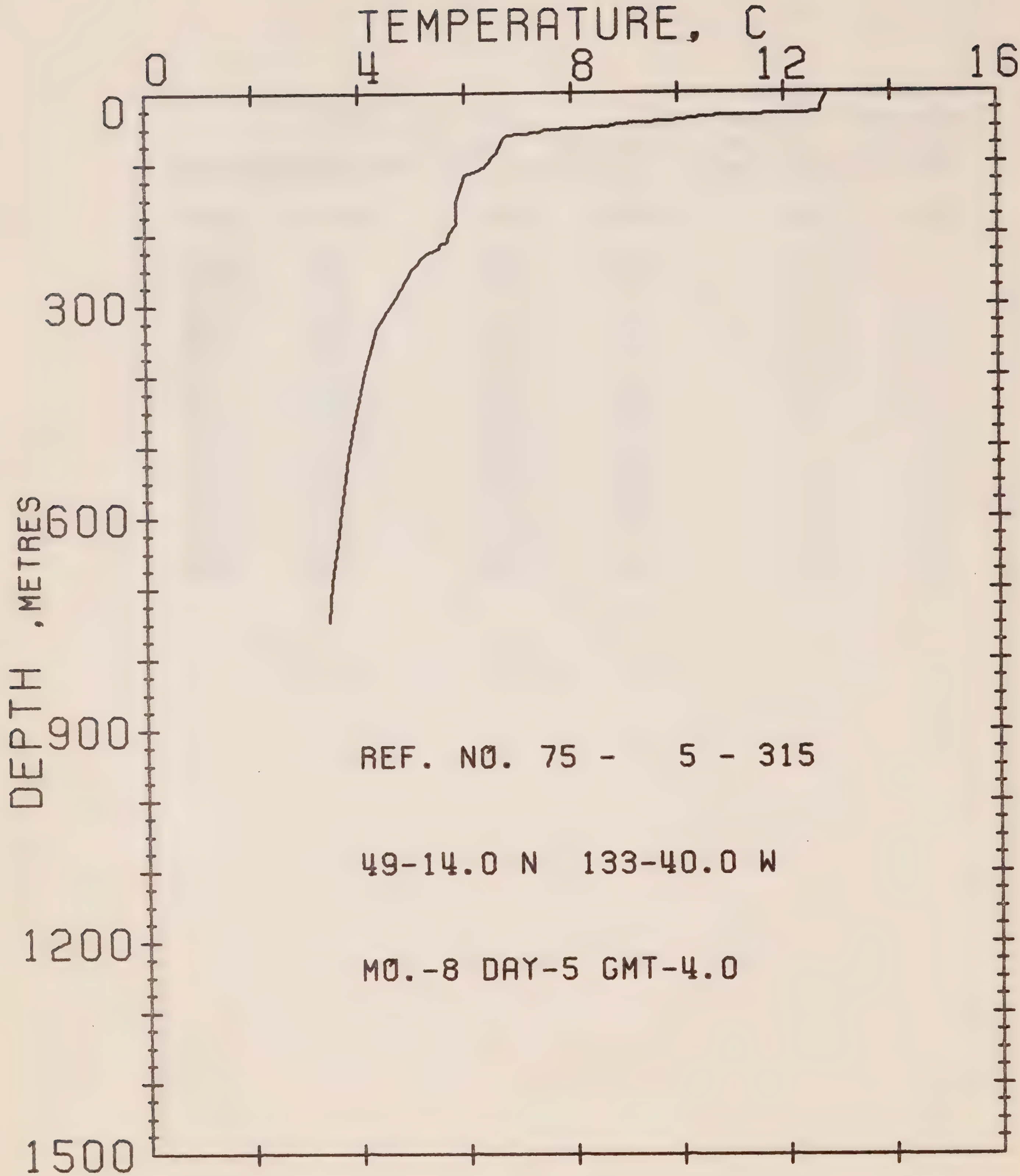
OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-313 DATE 04/ 8/75
POSITION 49-22.0N 135-40.0W GMT 22.8
RESULTS OF XBT CAST 43 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	12.19	64	6.85	192	5.83
6	12.14	71	6.64	207	5.67
21	12.14	77	6.42	220	5.39
28	12.14	86	6.37	238	5.23
34	12.14	92	6.32	258	4.90
37	10.95	100	6.10	285	4.74
41	9.34	110	5.94	314	4.63
43	9.03	121	5.94	339	4.52
46	8.40	130	5.88	366	4.41
47	8.19	143	6.10	416	4.18
50	8.03	152	6.26	497	3.96
53	7.97	164	6.32	601	3.80
55	7.65	174	6.10	678	3.68
59	7.28	183	5.99	745	3.46
62	7.07				


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH .METRES
REF. NO. 75 - 5 - 314
49-17.0 N 134-40.0 W
MO.-8 DAY-5 GMT-1.3

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-314 DATE 05/ 8/75
POSITION 49-17.0N 134-40.0W GMT 01.3
RESULTS OF XBT CAST 42 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	12.45	79	6.80	192	5.56
12	12.40	85	6.69	202	5.61
21	12.34	87	6.53	219	5.50
29	12.34	93	6.53	237	5.34
32	11.57	97	6.48	252	5.12
35	10.59	101	6.42	269	4.96
36	9.86	106	6.15	292	4.68
39	9.66	121	5.99	321	4.41
43	9.13	136	5.83	368	4.18
46	8.61	150	5.83	423	4.07
50	8.24	155	5.94	490	3.91
54	7.55	160	5.83	558	3.74
57	6.80	173	5.72	619	3.57
69	6.75	184	5.61	745	3.29


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NØ. 75 - 5 - 315
49-14.0 N 133-40.0 W
MØ.-8 DAY-5 GMT-4.0

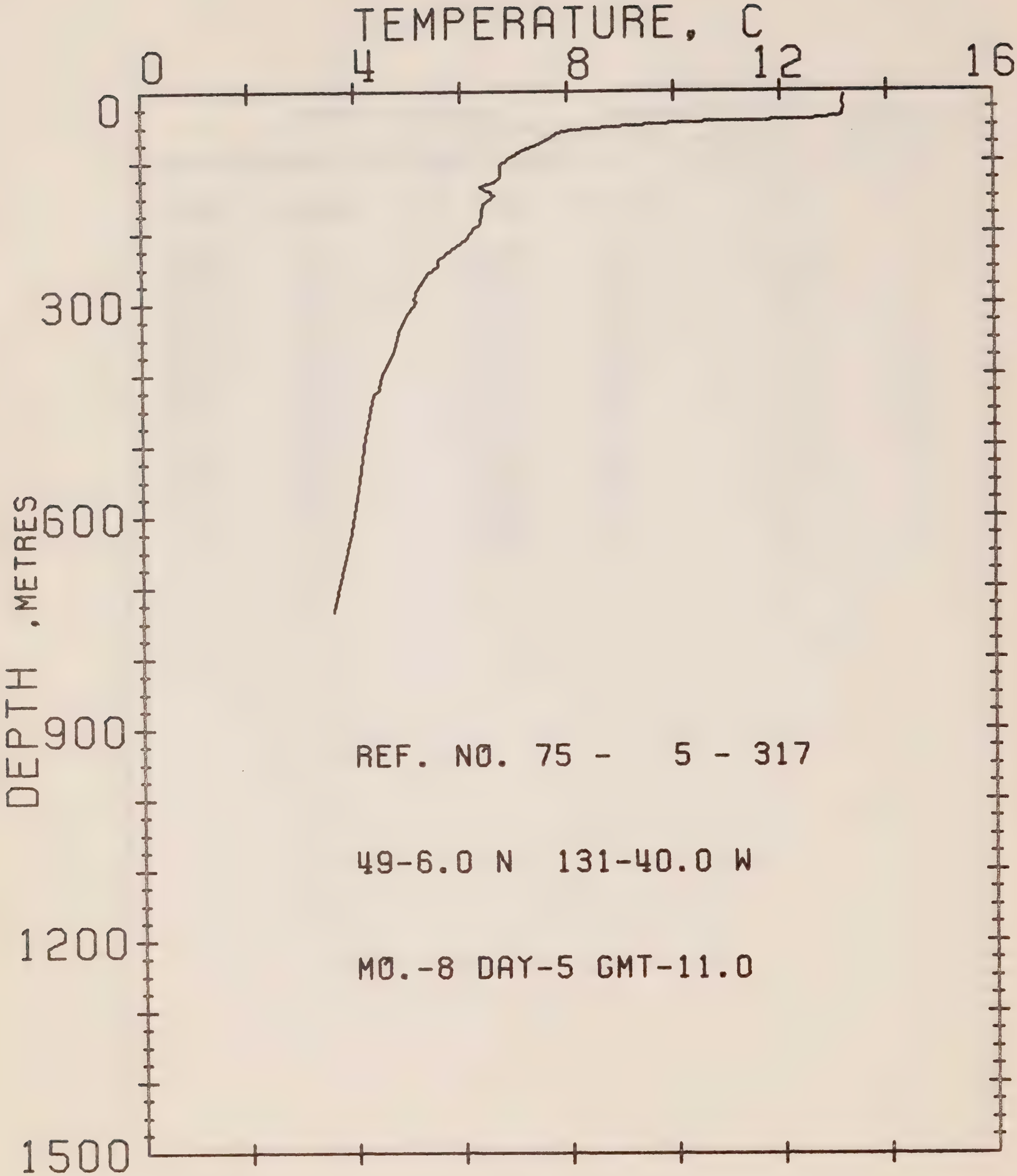
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 75- 5-315 DATE 05/ 8/75

POSITION 49-14.0N 133-40.0W GMT 04.0

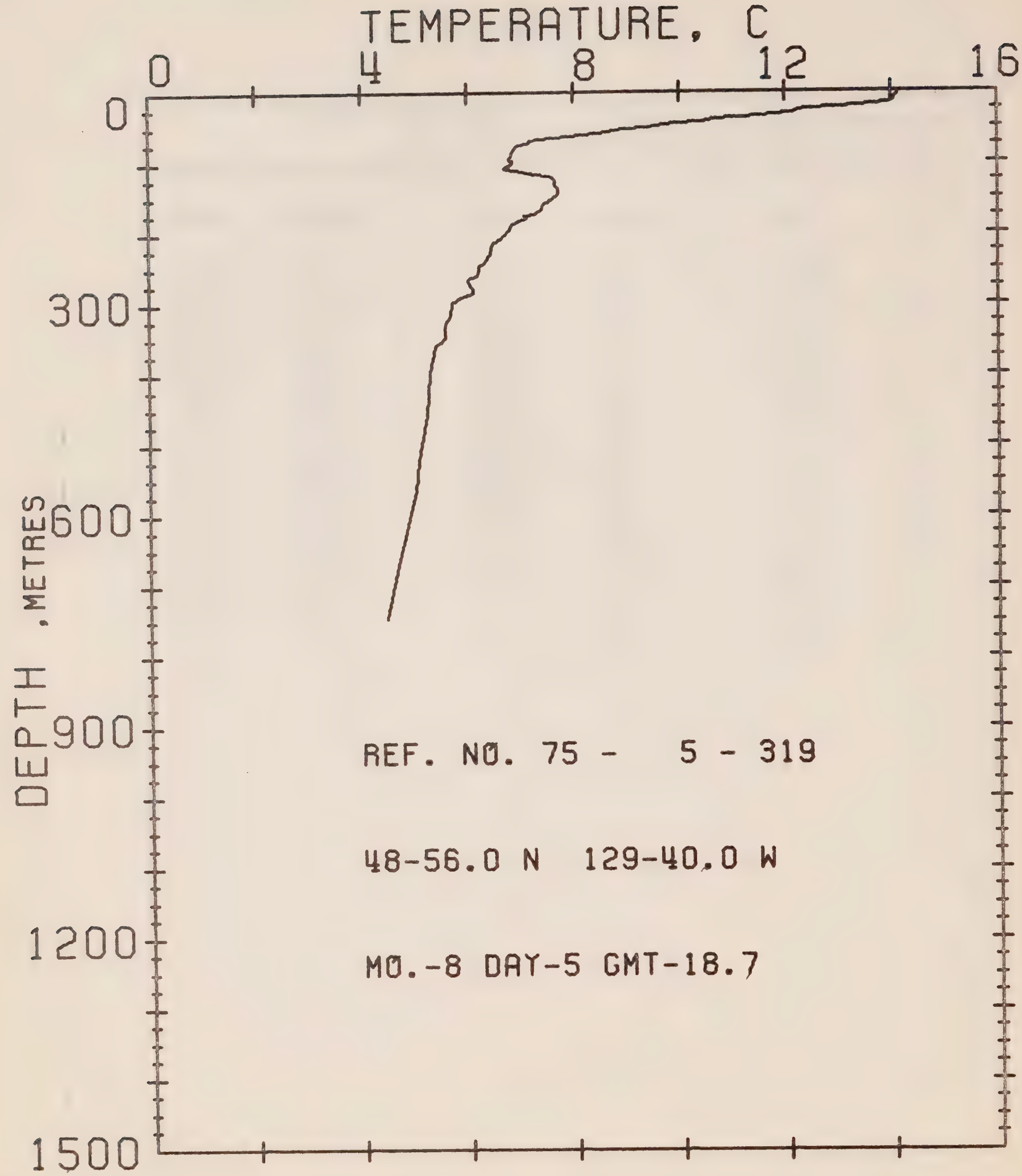
RESULTS OF XBT CAST 38 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	12.80	58	7.01	221	5.50
15	12.75	60	6.80	226	5.28
22	12.70	63	6.75	249	5.01
27	12.70	85	6.59	290	4.68
29	12.29	103	6.37	330	4.35
31	10.90	112	6.15	385	4.13
34	10.49	117	5.99	450	3.96
39	9.86	130	5.94	512	3.80
42	9.24	154	5.83	574	3.68
44	8.87	185	5.83	635	3.57
47	8.66	197	5.72	691	3.46
52	7.50	209	5.67	746	3.41
55	7.39	211	5.56		


TEMPERATURE, C
0
4
8
12
16
DEPTH ,METRES
0
300
600
900
1200
1500
REF. NO. 75 - 5 - 317
49-6.0 N 131-40.0 W
MO.-8 DAY-5 GMT-11.0

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-317 DATE 05/ 8/75
POSITION 49-06.0N 131-40.0W GMT 11.0
RESULTS OF XBT CAST 50 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
5	13.21	84	7.12	239	5.56
16	13.16	93	6.91	247	5.56
26	13.21	104	6.75	256	5.39
34	13.16	121	6.75	279	5.18
36	13.06	127	6.64	293	5.12
39	12.50	129	6.48	296	5.18
41	11.11	133	6.37	313	5.01
43	10.02	138	6.48	334	4.85
45	9.76	142	6.59	366	4.74
46	9.71	146	6.59	400	4.52
47	9.19	147	6.64	419	4.46
50	8.82	156	6.48	427	4.35
53	8.08	159	6.42	488	4.18
58	7.81	185	6.37	548	4.07
64	7.71	192	6.26	622	3.91
69	7.55	208	6.10	733	3.57
76	7.39	222	5.83		


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
DEPTH ,METRES
REF. NO. 75 - 5 - 319
48-56.0 N 129-40.0 W
MO.-8 DAY-5 GMT-18.7

OFFSHORE OCEANOGRAPHY
REFERENCE NO. 75- 5-319 DATE 05/ 8/75
POSITION 48-56.0N 129-40.0W GMT 18.7
RESULTS OF XBT CAST 76 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	14.13	85	6.85	194	6.80
8	14.08	92	6.80	206	6.64
14	14.03	95	6.80	215	6.48
17	13.93	96	6.85	229	6.42
18	13.67	100	6.85	241	6.32
22	13.01	103	6.75	245	6.21
24	12.40	107	6.69	253	6.21
25	12.24	110	6.96	259	6.15
29	12.14	112	7.01	261	6.05
32	11.73	115	7.28	268	5.99
34	11.57	118	7.55	277	6.10
37	10.64	119	7.60	284	6.10
41	10.44	126	7.65	291	5.88
44	9.92	132	7.65	299	5.72
47	9.55	135	7.71	316	5.67
49	9.39	144	7.71	328	5.56
52	8.98	151	7.60	348	5.56
53	8.71	158	7.44	359	5.39
56	8.66	165	7.39	398	5.28
62	7.92	169	7.28	458	5.23
65	7.34	172	7.28	522	5.07
67	7.18	174	7.07	566	5.01
70	7.18	177	7.12	613	4.85
72	7.12	181	6.96	679	4.63
74	6.96	186	6.85	746	4.46
77	6.91				

Surface Salinity and Temperature Observations
(P-75-5)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 5

DATE/TIME YR	MO	DY	GMT	SALINITY 0/00	TEMP C	LONGITUDE WEST
75	6	21	145	32.090	10.2	125-33
75	6	21	345	32.041	11.8	126- 0
75	6	21	635	32.287	8.9	126-40
75	6	21	1040	32.264	10.9	127-40
75	6	21	1445	32.299	10.7	128-40
75	6	21	2045	32.223	11.8	129-40
75	6	21	2305	32.254	10.9	130-40
75	6	22	236	32.537	10.2	131-40
75	6	22	540	32.428	10.1	132-40
75	6	22	920	32.424	9.8	133-40
75	6	22	1200	32.398	9.5	134-40
75	6	22	1540	32.436	9.4	135-40
75	6	22	1835	32.462	9.2	136-40
75	6	22	2200	32.508	9.4	137-40
75	6	23	30	32.568	9.4	138-40
75	6	23	330	32.581	8.9	139-40
75	6	23	600	32.589	8.9	140-40
75	6	23	1050	32.592	8.9	141-40
75	6	23	1355	32.673	8.4	142-40
75	6	23	2055	32.656	8.4	143-40
75	6	24	0	32.648	8.4	ON STATION
75	6	25	0	32.667	7.8	ON STATION
75	6	26	0	32.649	8.0	ON STATION
75	6	27	0	32.648	7.8	ON STATION
75	6	28	0	32.650	8.2	ON STATION
75	6	29	0	32.655	8.6	ON STATION
75	6	30	0	32.647	8.7	ON STATION
75	7	1	0	32.643	8.9	ON STATION
75	7	2	0	32.647	8.9	ON STATION
75	7	3	0	32.639	9.1	ON STATION
75	7	4	0	32.640	9.1	ON STATION
75	7	5	0	32.643	9.2	ON STATION
75	7	6	0	32.646	9.5	ON STATION
75	7	7	0	32.632	10.2	ON STATION
75	7	8	0	32.601	10.3	ON STATION
75	7	9	0	32.640	9.8	ON STATION
75	7	10	0	32.644	9.8	ON STATION
75	7	11	0	32.638	9.9	ON STATION
75	7	12	0	32.625	10.1	ON STATION
75	7	13	0	32.602	10.4	ON STATION
75	7	14	0	32.605	10.8	ON STATION
75	7	15	0	32.621	10.5	ON STATION
75	7	16	0	32.613	10.5	ON STATION
75	7	17	0	32.627	10.3	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 5

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
75	7	18	0	32.631	10.1	ON STATION
75	7	19	0	32.629	10.0	ON STATION
75	7	20	0	32.627	10.1	ON STATION
75	7	21	0	32.617	10.2	ON STATION
75	7	22	0	32.621	10.2	ON STATION
75	7	23	0	32.615	10.3	ON STATION
75	7	24	0	32.608	10.2	ON STATION
75	7	25	0	32.617	9.8	ON STATION
75	7	26	0	32.603	9.9	ON STATION
75	7	27	0	32.605	10.2	ON STATION
75	7	28	0	32.604	10.3	ON STATION
75	7	29	0	32.606	10.4	ON STATION
75	7	30	0	32.601	10.5	ON STATION
75	7	31	0	32.593	10.6	ON STATION
75	8	1	0	32.582	10.7	ON STATION
75	8	2	0	32.599	10.6	ON STATION
75	8	3	0	32.570	10.4	ON STATION
75	8	3	2310	32.532	10.7	143-40
75	8	4	230	32.525	10.8	142-40
75	8	4	700	32.526	10.7	141-40
75	8	4	1045	32.499	11.0	140-40
75	8	4	1220	32.480	10.9	139-40
75	8	4	1500	32.495	11.3	138-40
75	8	4	1730	32.458	11.7	137-40
75	8	4	2000	32.333	11.8	136-40
75	8	4	2245	32.312	12.1	135-40
75	8	5	115	32.319	12.4	134-40
75	8	5	400	32.343	12.7	133-40
75	8	5	700	32.186	13.1	132-40
75	8	5	1100	32.306	13.2	131-40
75	8	5	1355	32.036	13.9	130-40
75	8	5	1840	32.063	13.9	129-40
75	8	5	2130	32.199	14.9	128-40
75	8	6	140	32.059	14.5	127-40
75	8	6	530	32.982	14.0	126-40
75	8	6	845	30.258	12.5	126- 0

Surface Salinity and Temperature Observations
(P-75-6)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 6

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
75	8	1	2300	31.889	9.7	125-33
75	8	2	30	32.075	13.7	126- 0
75	8	2	920	32.260	14.2	128-40
75	8	2	1230	32.171	14.3	129-40
75	8	2	1540	32.096	14.2	130-40
75	8	2	1901	32.377	13.5	131-40
75	8	2	2215	32.258	13.1	132-40
75	8	3	115	32.396	12.8	133-40
75	8	3	504	32.362	12.6	134-40
75	8	3	1200	32.365		136-40
75	8	3	1600	32.514		137-40
75	8	3	1857	32.520	11.3	138-40
75	8	3	2205	32.514	11.0	139-40
75	8	4	100	32.527		140-40
75	8	4	400	32.561		141-40
75	8	4	725	32.565	10.8	142-40
75	8	4	1130	32.566	11.0	143-40
75	8	4	2000	32.691	10.5	ON STATION
75	8	5	2000	32.594	10.3	ON STATION
75	8	6	2000	32.582	10.3	ON STATION
75	8	7	2000	32.585	10.5	ON STATION
75	8	8	2000	32.575	10.4	ON STATION
75	8	9	2000	32.576	10.5	ON STATION
75	8	10	2000	32.571	10.7	ON STATION
75	8	11	2000	32.569	10.9	ON STATION
75	8	12	2000	32.562	10.9	ON STATION
75	8	13	2000	32.584	11.1	ON STATION
75	8	14	2000	32.573		ON STATION
75	8	15	2000	32.571	11.0	ON STATION
75	8	16	2000	32.580	10.8	ON STATION
75	8	17	2000	32.581	11.0	ON STATION
75	8	18	2000	32.554	11.0	ON STATION
75	8	19	2000	32.568	11.3	ON STATION
75	8	20	2000	32.573	11.2	ON STATION
75	8	21	2000	32.542	11.2	ON STATION
75	8	22	2000	32.533		ON STATION
75	8	23	2000	32.535	11.4	ON STATION
75	8	24	2000	32.535	11.3	ON STATION
75	8	25	2000	32.506		ON STATION
75	8	26	2000	32.526	11.3	ON STATION
75	8	27	2000	32.554		ON STATION
75	8	28	2000	32.542		ON STATION
75	8	29	2000	32.542	11.3	ON STATION
75	8	30	2000	32.545	11.4	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 6

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
75	8	31	2000	32.541	11.5	ON STATION
75	9	1	2000	32.539	11.4	ON STATION
75	9	2	2000	32.549	11.7	ON STATION
75	9	3	2000	32.520	11.7	ON STATION
75	9	4	2000	32.513	11.7	ON STATION
75	9	9	2000	32.512	12.6	ON STATION
75	9	10	2000	32.481	12.2	ON STATION
75	9	11	2000	32.489	12.4	ON STATION
75	9	12	2000	32.481	12.5	ON STATION
75	9	13	2000	32.479	12.4	ON STATION
75	9	14	2000	32.478		144- 6
75	9	14	2130	32.474		143-40
75	9	15	100	32.492	12.4	142-40
75	9	15	500	32.472	12.3	141-40
75	9	15	800	32.449	12.5	140-40
75	9	15	1100	32.491	12.9	139-40
75	9	15	1400	32.477	13.0	138-40
75	9	15	1700	32.376	12.9	137-40
75	9	15	2025	32.334	13.4	136-40
75	9	15	2330	32.461	13.9	135-40
75	9	16	245	32.252	13.7	134-40
75	9	16	600	32.289	13.6	133-40
75	9	16	900	32.242	13.9	132-40
75	9	16	1230	32.177	14.2	131-40
75	9	16	1500	32.126	14.0	130-40
75	9	16	1800	32.126	13.5	129-40
75	9	17	2130	32.120	13.0	128-40
75	9	18	40	32.042	11.1	127-40
75	9	18	340	32.095	12.2	126-40

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OCEANOGRAPHIC OBSERVATIONS AT OCEAN STATION P

(50° N., 145° W.)

Volume 69

12 September – 10 December 1975

INSTITUTE OF OCEAN SCIENCES, PATRICIA BAY
Victoria, B.C.

For additional copies or further information, please write to:

Environment Canada

Institute of Ocean Sciences, Patricia Bay

512 - 1230 Government Street

Victoria, B.C.

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Pacific Marine Science Report 76-15

OCEANOGRAPHIC OBSERVATIONS AT OCEAN STATION P (50°N, 145°W)

Volume 69

12 September - 10 December 19

Institute of Ocean Sciences, Patricia Bay
Victoria, B.C.

July, 1976

ABSTRACT

Physical, chemical and biological oceanographic observations are made from the weathership at Ocean Weather Station Papa, and between Esquimalt and Station Papa, on a routine continuing basis. Physical oceanography data only are shown, including profiles obtained with bottle casts, and conductivity-temperature-pressure instruments. Surface observations are also shown.

INTRODUCTION

Canadian operation of Ocean Weather Station P (Latitude 50°00'N, Longitude 145°00'W) was inaugurated in December, 1950. The station is occupied primarily to make meteorological observations of the surface and upper air and to provide an air-sea rescue service. The station is manned by two vessels operated by the Marine Services Branch of the Ministry of Transport. They are the *CCGS Vancouver* and the *CCGS Quadra*. Each ship remains on station for a period of six weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch.

Bathythermograph observations have been made at Station P since July 1952. A program of more extensive oceanographic observations commenced in August 1956. This was extended in April 1959, by the addition of a series of oceanographic stations along the route to and from Station P and Swiftsure Bank. These stations are known as Line P stations. The number of stations on Line P has been increased twice and now consists of twelve stations (Fig. 1). Bathythermograph observations and surface salinity sample collections, in addition to being made on Line P oceanographic stations, are also made at odd meridians at 40', i.e. 139°40'W, 141°40'W, etc. These stations are known as Line P BT stations. Data observed prior to 1968 has been indexed by Collins *et al*. (1969).

The present record includes hydrographic, continuously sampled STP and surface salinity and temperature data collected from the *CCGS Vancouver* during the period 12 September to 29 October 1975; surface salinity and temperature data collected from the *CCGS Quadra* during the period 24 October to 10 December 1975.

All physical oceanographic data have been stored by the Canadian Oceanographic Data Centre (CODC), 615 Booth Street, Ottawa, Ontario, Canada. Requests for these data should be directed to CODC.

Biological and productivity data are published in the Manuscript Report series of the Fisheries Research Board of Canada (FRB), Biological Station, Nanaimo, British Columbia, Canada. Requests for these data should be directed to FRB.

Marine geochemical data are for the Ocean Chemistry Group, Ocean and Aquatic Sciences, Environment Canada, 512 - 1230 Government Street, Victoria, British Columbia, Canada.

PROGRAM OF OBSERVATIONS FROM *CCGS VANCOUVER*, 12 SEPTEMBER - 29 OCTOBER 1975 (P-75-7) (CODC Ref. No. 15-75-007)

Oceanographic observations were made by Ms. W.E. Grant of Chemex Labs Ltd., North Vancouver, B.C.

En route to Station P, Line P Stations 1-6 and 12 were occupied and an STP profile made; Stations 1 and 2 to near bottom, Stations 3-6 and 12 to 1500 metres. All other stations were missed due to lack of time. (A transfer from the *CCGS Quadra* required the *CCGS Vancouver* to relieve the *CCGS Quadra* during daylight.)

Salinity, nitrate, alkalinity and total CO_2 samples were taken from the seawater loop at all stations.

The thermosalinograph and the surface temperature recorder were run continuously.

Mechanical BT or XBT's were taken at all Line P and BT stations.

Surface tarball tows were made at Stations 2, 4 and 12.

At Station P the oceanographic program was carried out as follows:

I. Physical Oceanography

1) Profiles of salinity, temperature and oxygen were obtained from 6 hydrographic stations to near bottom (4200 metres).

2) 12 STP profiles to 1500 metres and 19 to 375 metres were obtained.

3) BT's were taken every three hours to coincide with meteorological observations, encoded and transmitted according to the IGOSS format.

4) Salinity samples daily at 0000 hrs GMT from the seawater loop or from a bucket when loop was not operational.

II. Marine Geochemistry

1) Samples for nutrients, tritium, alkalinity and total CO_2 were obtained from 6 depths to 500 metres. Nutrient, phosphate and salinity samples were also collected daily at 0000 hrs GMT and once every hour for a 24 hour period from the seawater loop.

2) Alkalinity and total CO_2 samples every 3 days from the seawater loop.

3) Air CO_2 samples weekly in quadruplicate.

4) 2 seawater C-14 samples were extracted from 45 gallons of seawater taken from the seawater loop.

5) 1 surface tarball tow was made at a speed of 4 knots. The tarball net was lost during the second tow.

6) The PCO_2 system was operated whenever the seawater loop was operational.

III. Biological and Productivity

Samples were obtained as follows:

1) 30 - 150 metre vertical plankton hauls
   2 - 1200 metre vertical plankton hauls
   10 - Surface plankton tows for 10 minutes at sundown.

2) Samples for plant pigment, nitrate and C_{14} productivity were obtained from 3 hydrocasts to 200 metres.

En route from Station P only Line P stations 5 and 4 were occupied and an STP profile made to 375 metres. All other stations were missed. Salinity, nitrate, alkalinity and total CO_2 samples were taken from the seawater loop at stations 12-2. The thermosalinograph and the surface temperature recorder were run continuously. The PCO_2 system was run continuously from station 12-3. Mechanical BT or XBT's were taken at all Line P and BT stations.

PROGRAM OF OBSERVATIONS FROM *CCGS QUADRA*, 24 OCTOBER 1975 - 10 DECEMBER 1975 (P-75-8) (CODC Ref. No. 15-75-008)

Oceanographic observations were made by the ship's officers.

En route to and from Station P, mechanical BT's were taken only when weather permitted. The temperature recorder was run continuously.

Salinity and nutrient samples were taken from the seawater loop.

At Station P the oceanographic program was carried out as follows:

1) Mechanical BT's were taken only when weather permitted every 3 hours to coincide with meteorological observations, encoded and transmitted according to the IGOSS format.

Observations for Other Agencies

1) Marine mammal observations were made by the ship's officers for Mr. I. McAskie, Fisheries Research Board of Canada, Biological Station, Nanaimo, B.C., Canada.

2) Bird observations were made by the ship's officers for Dr. M. Myres, University of Alberta, Calgary, Alberta, Canada and Mr. J. Guiguet, Curator of Birds and Mammals, Provincial Museum, Department of Recreation and Conservation, Victoria, British Columbia, Canada.

3) Air CO_2 samples weekly in duplicate for Scripps Institution of Oceanography, La Jolla, San Diego, California, U.S.A.

Data was processed for publication by Messrs. C. de Jong, B. Minkley and E. Luscombe.

OBSERVATIONAL PROCEDURES

Temperatures at depth were measured by deep-sea-reversing thermometers of Richter and Wiese and/or Yoshino Keiki Co. manufacture. Two protected thermometers were used on all Niskin bottles, and one unprotected thermometer was used on each bottle at depths of 300 m or greater. The accuracy of protected reversing thermometers is believed to be ± 0.02°C.

Surface water temperatures were measured from a bucket sample using a deck thermometer of ± 0.1°C accuracy.

Salinity determinations were made aboard ship with either an Auto-lab Model 601 Mark III inductive salinometer or a Hytech Model 6220 lab salinometer. Accuracy using duplicate determinations is estimated to be ± 0.003°/oo.

Depth determinations were made using the "depth difference" method described in the U.S.N. Hydrographic Office Publication No. 607 (1955). Depth estimates have an approximate accuracy of ±5 m for depths less than 1000 m, and ±0.5% of depth for depths greater than 1000 m.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Carpenter, 1965).

Line P engine intake continuous temperatures on both ships were recorded by a Honeywell Electronik 15 Recorder. The temperature probe is at a depth of approximately 3 metres below the sea surface and the instrument accuracy is believed to be ± 0.1°C.

Each ship is equipped with a Plessey Model 6600-T thermosalinograph which is used, on Line P, for continuous recording of surface temperatures and salinities from the ship's seawater loop. The temperature probe is mounted at the seawater loop intake (approximately 3 metres below the surface) and the salinity probe and recorder are situated in the dry lab. The accuracy of this instrument is believed to be ± 0.1°C for temperature and ± 0.1°/oo for salinity.

STP profiles were taken with a Plessey Model 9006 STP system.

COMPUTATIONS

All hydrographic data were processed with the aid of an IBM 360 computer. Reversing thermometer temperature corrections, thermometric depth calculations, and accepted depth from the "depth difference" method were computed. Extraneous thermometric depths caused by thermometer malfunctions are automatically edited and replaced. A Calcomp 565 Offline Plotter was used to plot temperature-salinity and temperature-oxygen diagrams, as well as plots of temperature, salinity, and dissolved oxygen vs $\log_{10}$ depth. These plots were used to check the data for errors.

Missing hydrographic data were obtained using a weighted parabolas interpolation method (Reiniger and Ross, 1968). These data are indicated with an asterisk in this data record.

Data values which we suspect but which we have included in this data record are indicated with a plus. These data have been removed from punch card and magnetic tape records.

Analog records from the salinity-temperature-pressure instrument have been machine digitized, then replotted using the Calcomp plotter.

Digitization was continued until original and computer plotted traces were coincident. Temperature and salinity values were listed at standard pressures; integrals (depths, geopotential anomaly, and potential energy anomaly) were computed from the entire array of digitized data.

The headings for the data listings are explained as follows:

PRESS	is pressure (decibars)
TEMP	is temperature (degrees Celsius)
SAL	is salinity (parts per thousand)
DEPTH	is reported in metres
SIGMA-T	is specific gravity anomaly
SVA	is specific volume anomaly
THETA	is potential temperature (degrees Celsius)
SVA (THETA)	is potential specific volume anomaly
DELTA D	is geopotential anomaly (J/kg)
POT EN	is potential energy in units of 10^8 ergs/cm^2
OXY	is the concentration of dissolved oxygen expressed in millilitres per litre
B-V PERIOD	is the Brunt-Vaisala period in minutes

REFERENCES

Carpenter, J.H., 1965. The Chesapeake Bay Institute technique for the Winkler dissolved oxygen method. Limnol. and Oceanogr., 10: 141-143.

Collins, C.A., R.L. Tripe, D.A. Healey and J. Joergensen, 1969. The time distribution of serial oceanographic data from the Ocean Station P programme. Fish. Res. Bd. Can. Tech. Rept. No. 106.

Reiniger, R.F. and C.K. Ross, 1968. A method of interpolation with application to oceanographic data. Deep Sea Res., 15: 185-193.

U.S.N. Hydrographic Office, 1955. Instruction Manual for oceanographic observations, Publ. No. 607.

LIST OF FIGURES

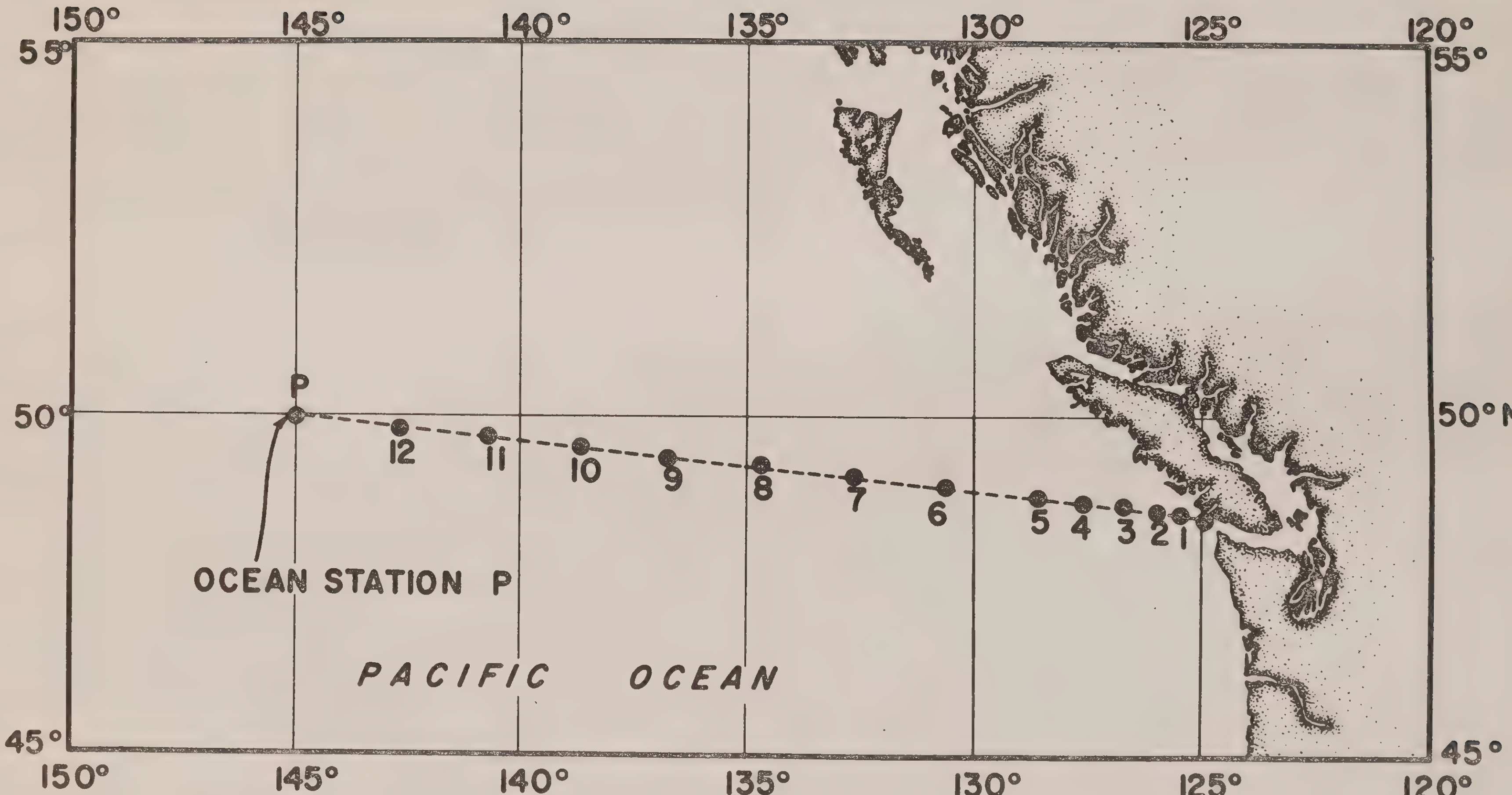


Fig. 1 Chart showing Line P station positions.

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-75-7

(CODC REFERENCE NO. 15-75-007)

RESULTS OF HYDROGRAPHIC OBSERVATIONS

(P-75-7)

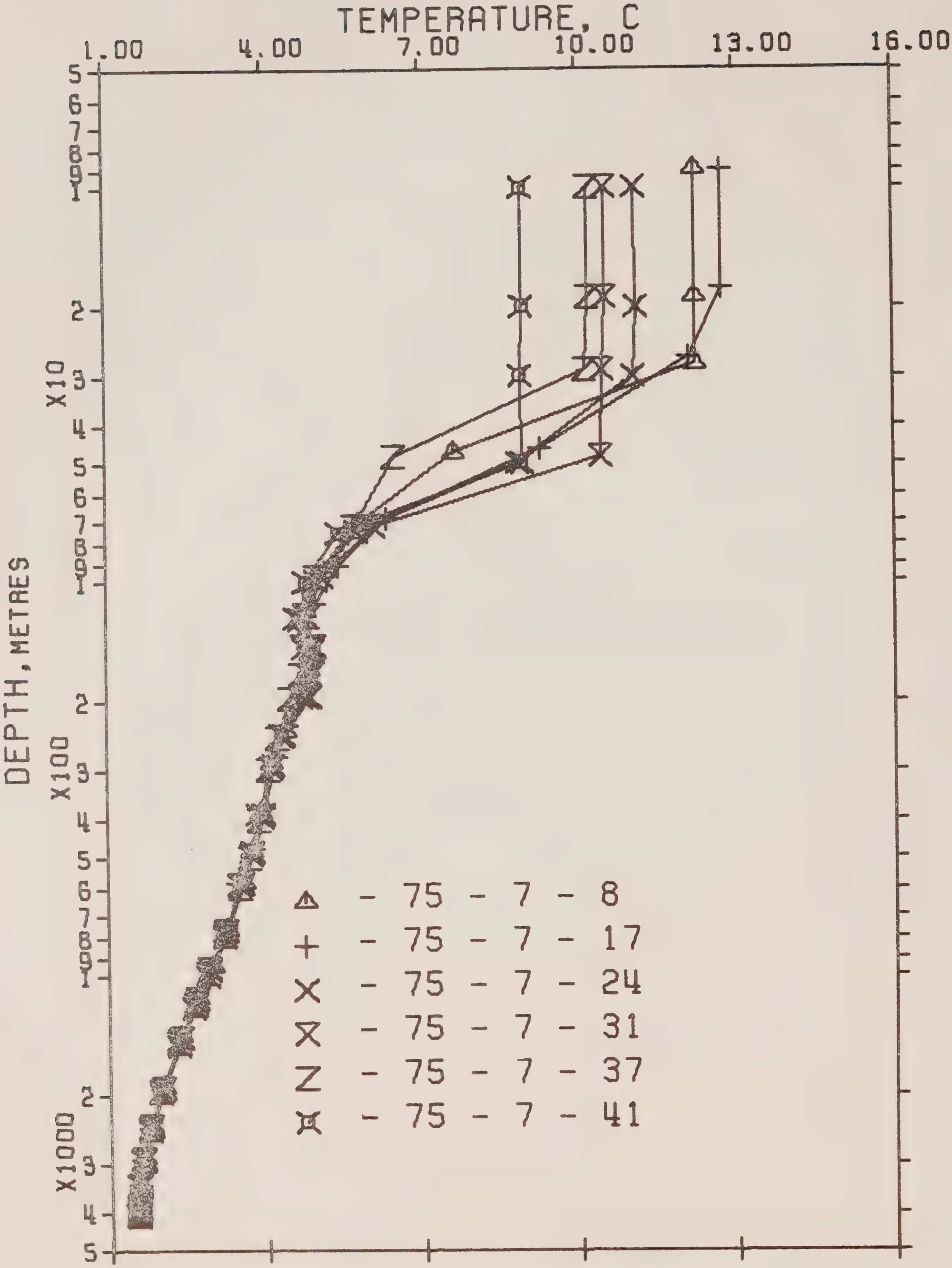


Figure 2. Composite plot of temperature vs $\log_{10}$ depth. P-75-7

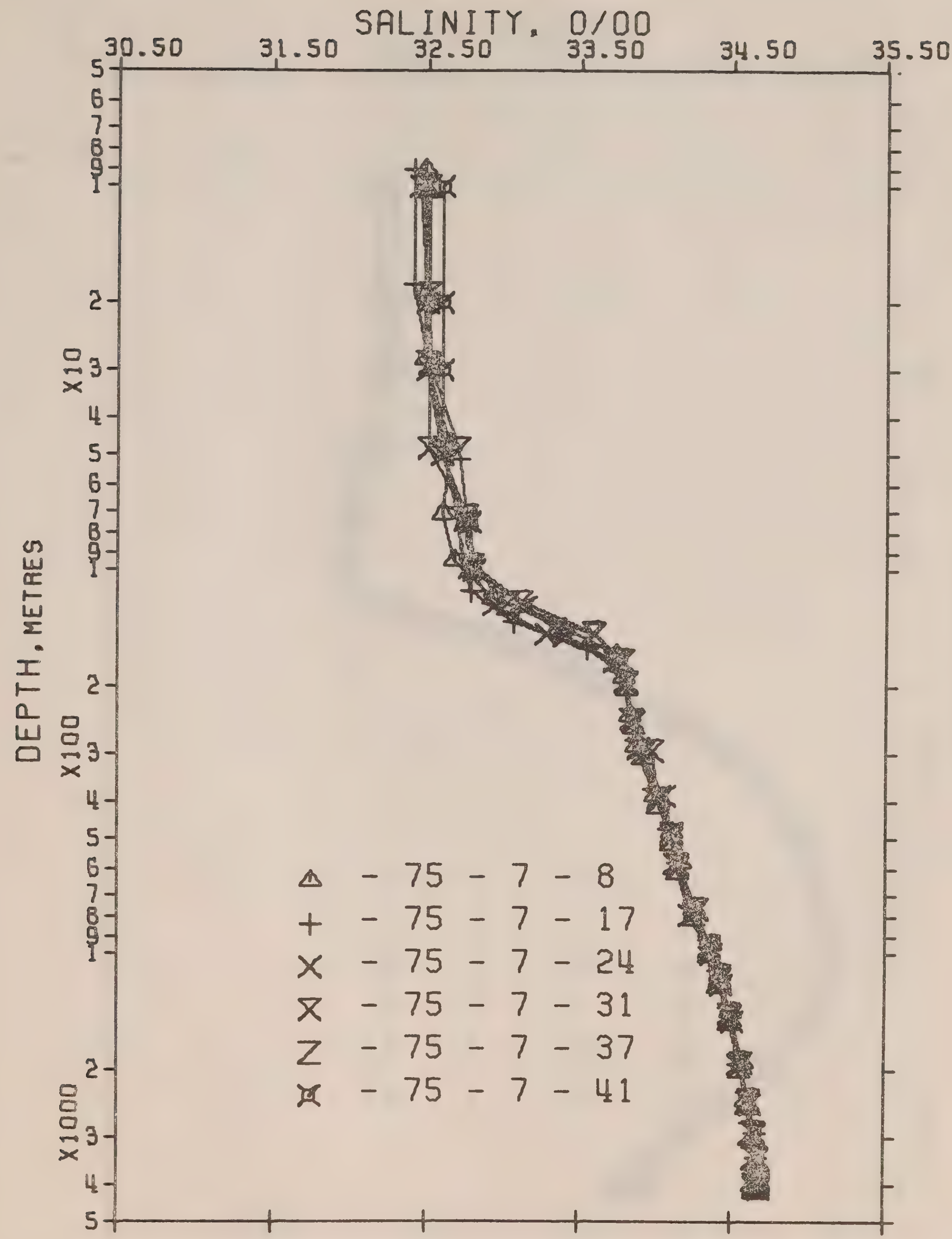


Figure 3. Composite plot of salinity vs $\log_{10}$ depth. P-75-7

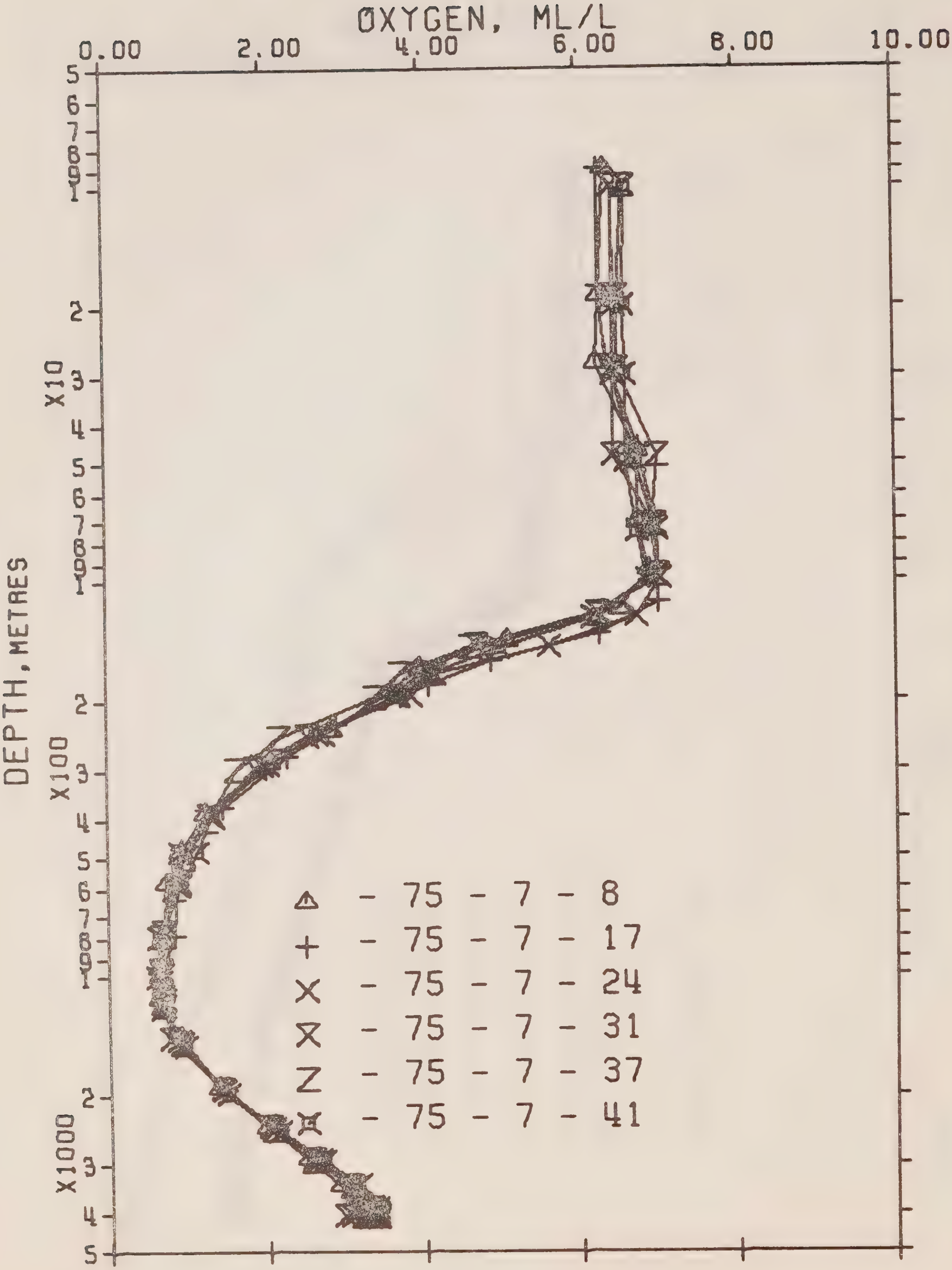
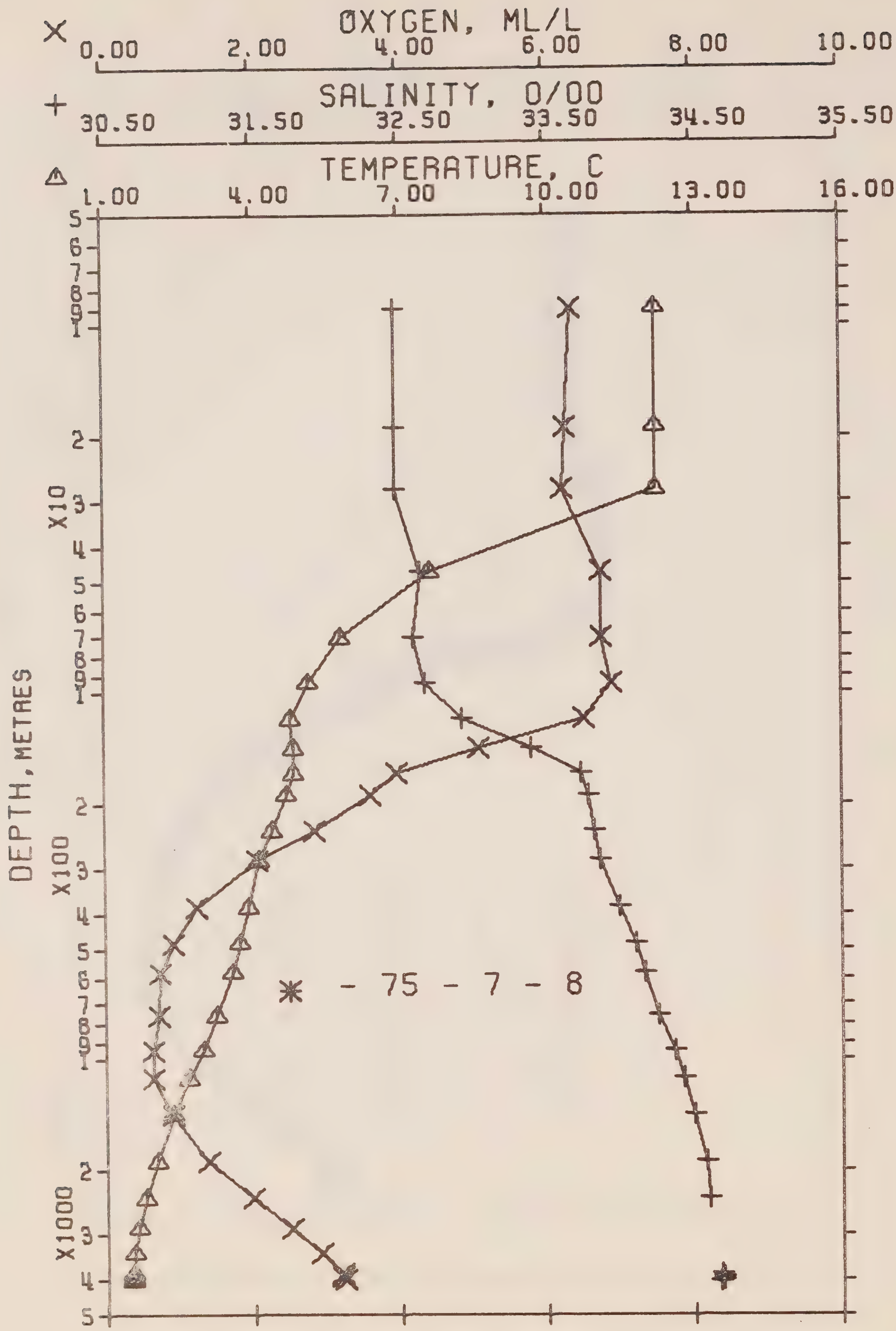


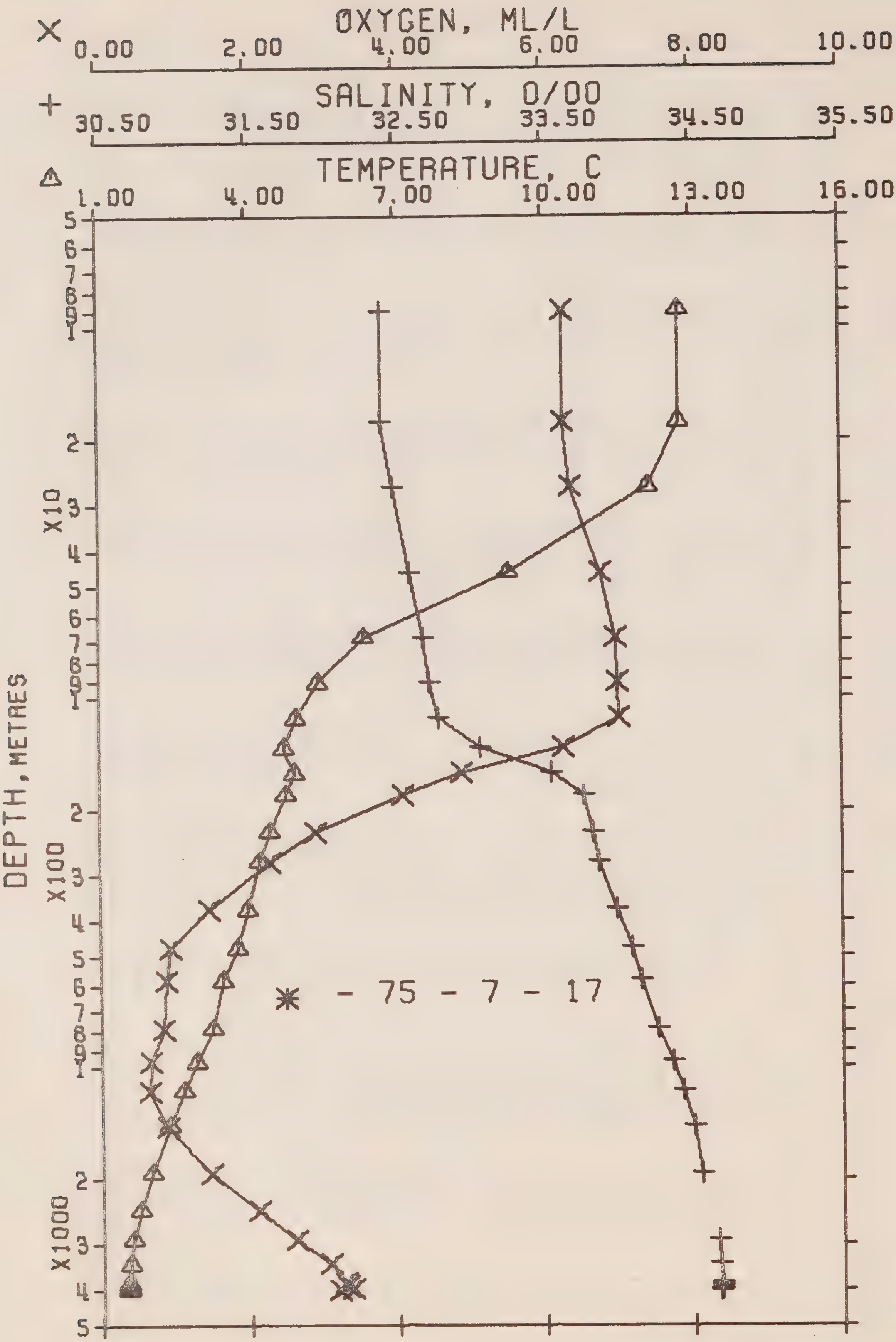
Figure 4. Composite plot of oxygen vs $\log_{10}$ depth. P-75-7



X OXYGEN, ML/L
0.00 2.00 4.00 6.00 8.00 10.00
+ SALINITY, 0/00
30.50 31.50 32.50 33.50 34.50 35.50
TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
5 6 7 8 9 1 2 3 4 5 6 7 8 9 1 2 3 4 5 6 7 8 9 1 2 3 4 5
- 75 - 7 - 8

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 7- 8 DATE 15/ 9/75
POSITION 50- 0.0 N. 145- 0.0 W GMT 18.6
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	12.29	32.484	0	24.607	334.4	12.29	334.2	0.0	0.0	6.33	1495.
9	12.26	32.485	9	24.613	334.0	12.26	333.6	0.30	0.01	6.36	1495.
19	12.26	32.434	19	24.612	334.3	12.26	333.6	0.64	0.06	6.28	1496.
28	12.25	32.477	28	24.609	334.8	12.25	333.9	0.94	0.14	6.23	1496.
47	7.62	32.550	47	25.509	249.2	7.62	248.3	1.51	0.35	6.77	1479.
71	5.80	32.597	71	25.705	230.6	5.79	229.6	2.07	0.69	6.77	1472.
95	5.14	32.677	94	25.845	217.4	5.13	216.3	2.59	1.13	6.90	1470.
119	4.79	32.929	118	26.083	195.0	4.78	193.6	3.09	1.68	6.51	1469.
143	4.84	33.398	142	26.449	160.6	4.83	158.8	3.52	2.25	5.09	1471.
167	4.84	33.738	166	26.718	135.3	4.83	133.3	3.87	2.81	3.97	1471.
191	4.70	33.791	190	26.776	130.1	4.69	127.8	4.19	3.39	3.59	1471.
240	4.39	33.826	238	26.937	124.6	4.37	122.0	4.81	4.74	2.84	1471.
288	4.13	33.873	286	26.902	118.7	4.11	115.9	5.40	6.33	2.06	1471.
385	3.92	33.996	383	27.021	108.2	3.89	104.5	6.50	10.13	1.24	1471.
484	3.73	34.108	480	27.129	98.6	3.70	94.2	7.51	14.61	0.93	1472.
582	3.57	34.170	577	27.194	93.0	3.53	87.9	8.45	19.69	0.75	1473.
764	3.25	34.263	757	27.299	84.0	3.20	77.9	10.06	30.73	0.73	1475.
949	2.97	34.369	940	27.409	74.3	2.91	67.4	11.52	43.49	0.63	1477.
1138	2.67	34.434	1127	27.488	67.4	2.59	59.9	12.86	57.71	0.64	1479.
1428	2.35	34.504	1413	27.571	60.2	2.25	51.9	14.70	81.77	0.90	1483.
1925	2.01	34.581	1902	27.660	52.8	1.88	43.2	17.47	129.12	1.38	1490.
2431	1.77	34.602	2399	27.695	50.1	1.60	39.7	20.05	186.53	1.99	1497.
2936	1.62	34.610*	2894	27.713	49.2	1.40	37.7	22.56	255.10	2.49	1505.
3434	1.53	34.629*	3381	27.734	48.0	1.27	35.3	24.98	333.86	2.90	1513.
3914	1.52	34.678	3849	27.775	45.6	1.21	31.2	27.24	418.51	3.19	1521.
4007	1.52	34.694	3940	27.787	44.7	1.20	29.9	27.66	435.50	3.19	1523.
4089	1.51	34.686	4020	27.782	45.3	1.18	30.5	28.02	450.25	3.22	1524.
4098	1.52	34.668	4029	27.767	46.8	1.19	31.8	28.06	452.02		1524.



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SALINITY, 0/00
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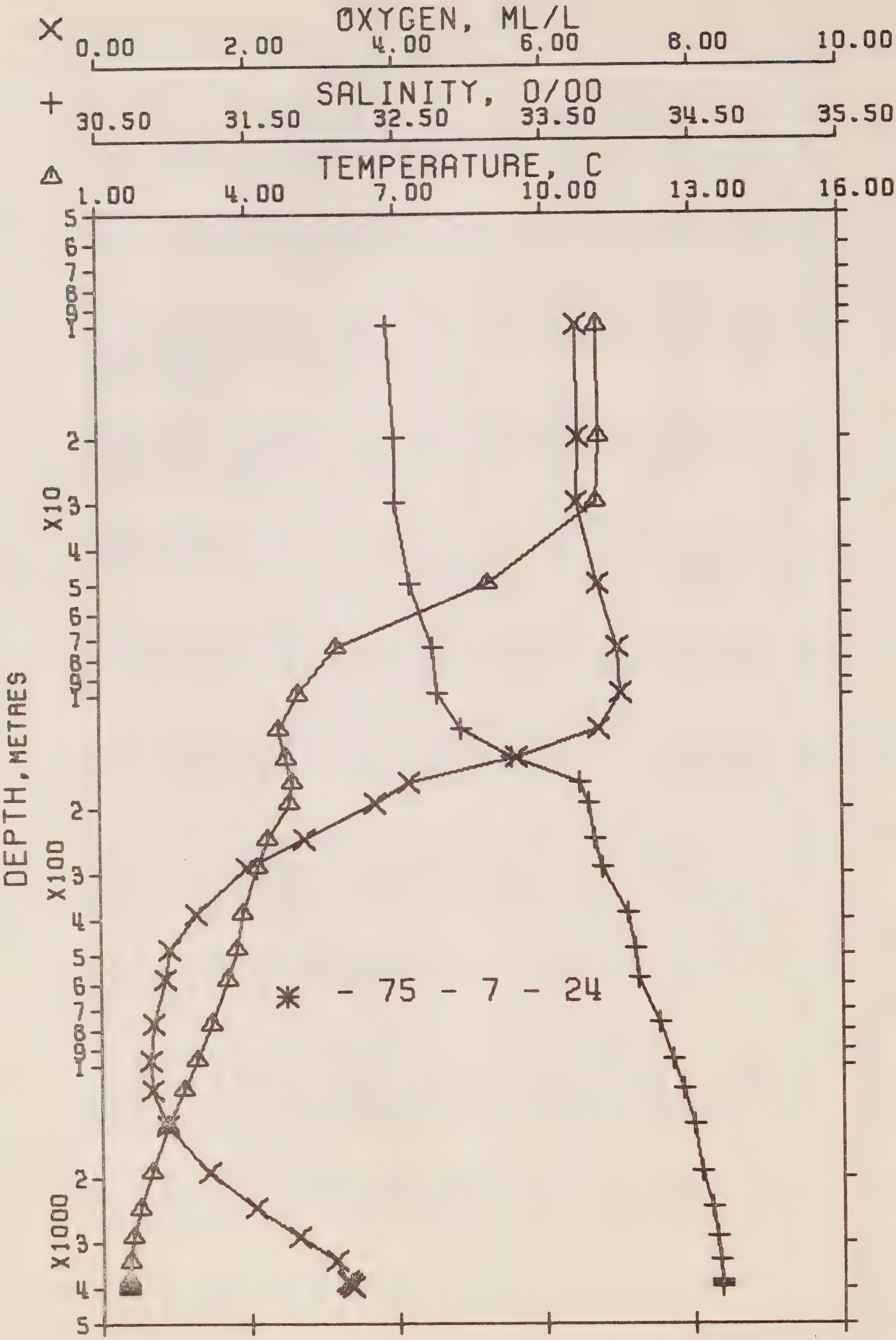
TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 7 - 17

OFFSHORE OCEANOGRAPHY GROUP   REFERENCE NO. 75- 7- 17   DATE 22/ 9/75
POSITION 50- 0.0 N, 145- 0.0 W   GMT 17.8
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	12.79	32.409	0	24.453	349.0	12.79	348.8	0.0	0.0	6.29	1497.
9	12.77	32.409	9	24.457	348.9	12.77	348.5	0.32	0.01	6.28	1497.
18	12.76	32.410	18	24.459	348.8	12.76	348.2	0.63	0.06	6.28	1497.
27	12.12	32.492	27	24.645	331.4	12.12	330.5	0.94	0.13	6.38	1495.
46	9.28	32.596	46	25.218	277.0	9.27	275.9	1.52	0.35	6.77	1485.
69	6.34	32.634	69	25.715	229.7	6.33	228.7	2.10	0.69	6.99	1475.
92	5.41	32.730	91	25.856	216.4	5.40	215.2	2.59	1.09	6.99	1471.
115	4.95	32.793	114	25.958	206.8	4.94	205.5	3.08	1.61	7.03	1470.
138	4.71	33.070	137	26.204	183.7	4.70	182.2	3.54	2.19	6.26	1469.
161	4.94	33.547	160	26.556	150.7	4.93	148.7	3.93	2.78	4.88	1471.
184	4.76	33.774	183	26.756	131.9	4.75	129.7	4.25	3.35	4.07	1471.
232	4.42	33.828	230	26.836	124.6	4.40	122.1	4.84	4.62	2.89	1471.
279	4.21	33.857	277	26.889	120.0	4.19	117.0	5.42	6.12	2.28	1471.
376	3.97	33.988	373	27.010	109.2	3.94	105.5	6.53	9.83	1.45	1472.
478	3.75	34.091	474	27.114	100.0	3.72	95.6	7.60	14.45	0.94	1472.
586	3.46	34.148	581	27.187	93.6	3.42	88.6	8.64	20.11	0.88	1473.
791	3.24	34.264	784	27.301	84.0	3.19	77.7	10.46	32.89	0.85	1476.
974	2.93	34.363	965	27.408	74.5	2.86	67.5	11.91	45.91	0.67	1477.
1163	2.66	34.430	1151	27.485	67.7	2.58	60.1	13.24	60.44	0.63	1479.
1455	2.34	34.500	1439	27.568	60.5	2.24	52.1	15.10	85.22	0.88	1483.
1957	2.00	34.550	1933	27.636	55.0	1.87	45.5	17.97	135.27	1.45	1490.
2466	1.76	34.609*	2433	27.702	49.6	1.59	39.0	20.63	195.13	2.10	1498.
2968	1.61	34.656	2925	27.750	45.8	1.39	34.1	23.01	261.02	2.59	1505.
3450	1.54	34.672	3397	27.768	45.1	1.27	32.1	25.19	332.39	3.06	1513.
3898	1.52	34.677	3834	27.774	45.6	1.21	31.3	27.22	408.35	3.25	1521.
3982	1.51	34.678	3916	27.775	45.6	1.19	31.1	27.60	423.75	3.28	1522.
4056	1.51	34.676	3988	27.774	46.0	1.18	31.2	27.93	437.36	3.35	1524.
4064	1.52	34.666	3996	27.765	46.9	1.19	32.0	27.97	438.94	3.18	1524.



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+ SALINITY, O/OO
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1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
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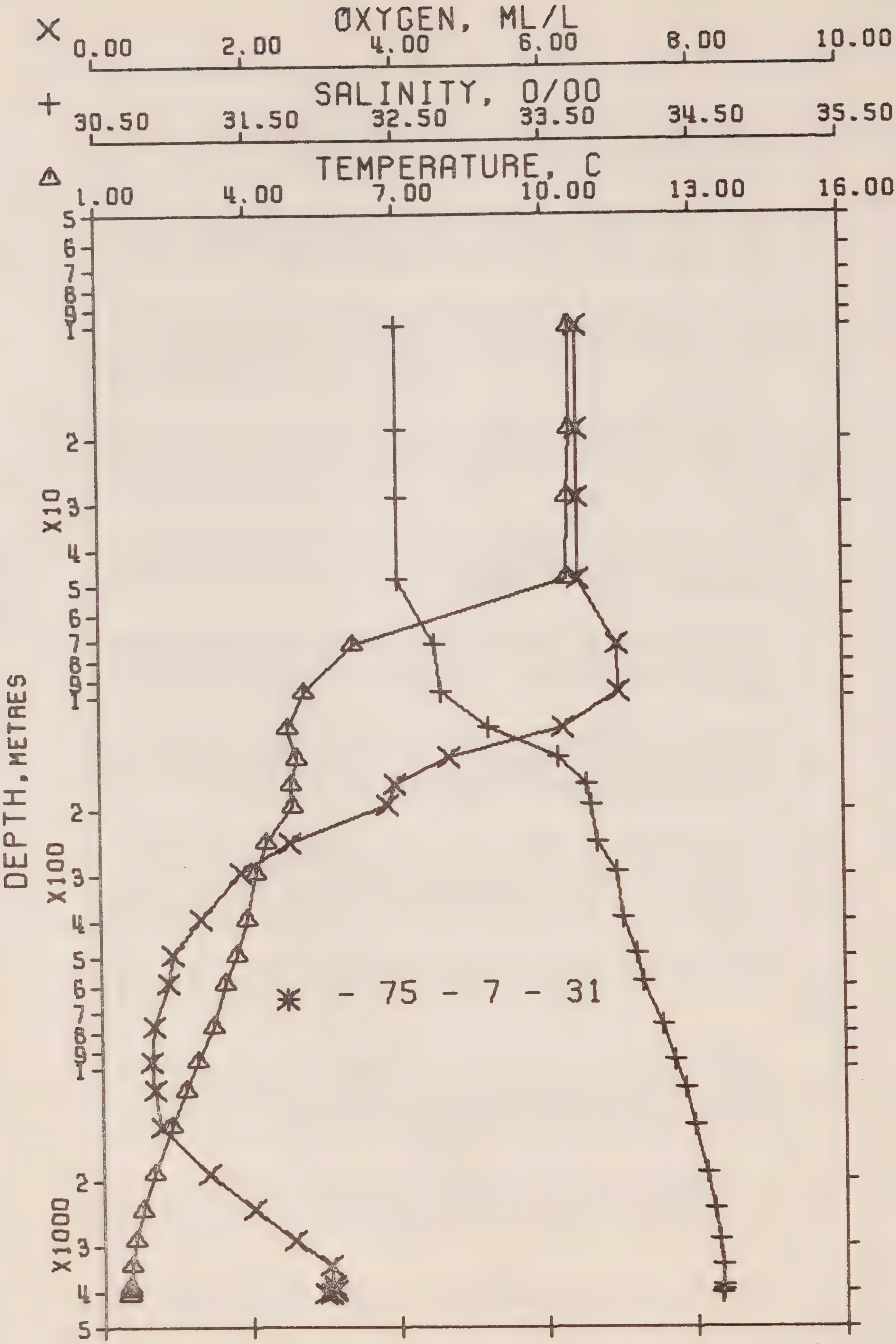
X100
X1000
✳ - 75 - 7 - 24

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 7- 24 DATE 29/ 9/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 18.1
HYDROGRAPHIC CAST DATA

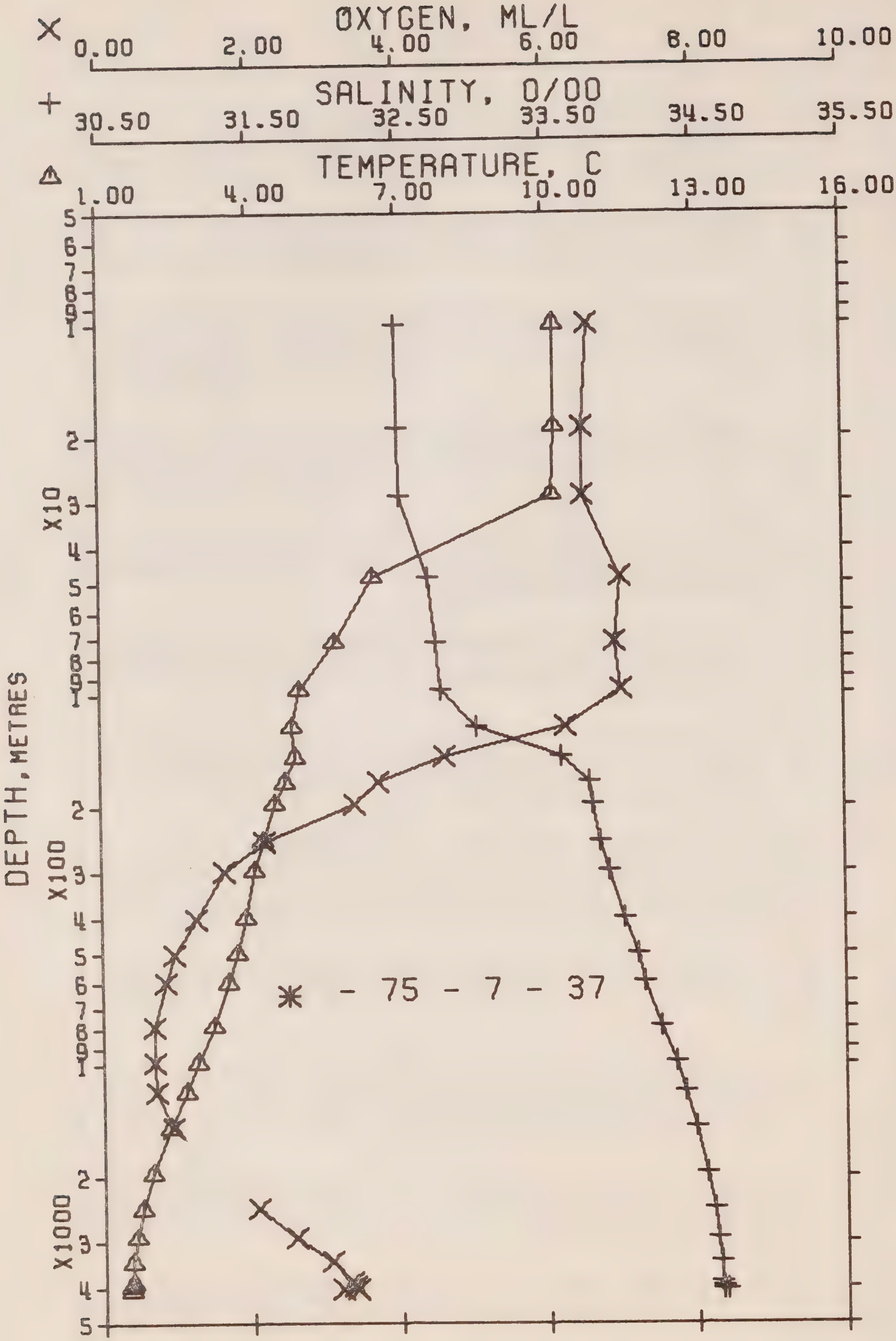
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	11.15	32.411	0	24.759	319.9	11.15	319.7	0.0	0.0	6.38	1491.
10	11.12	32.454	10	24.798	316.4	11.12	315.9	0.32	0.02	6.45	1491.
20	11.13	32.505	20	24.836	312.9	11.13	312.3	0.64	0.06	6.48	1492.
30	11.08	32.505	30	24.845	312.3	11.08	311.4	0.95	0.15	6.45	1492.
50	8.87	32.605	50	25.289	270.3	8.86	269.1	1.54	0.39	6.74	1484.
74	5.77	32.749	74	25.829	218.9	5.76	217.8	2.13	0.76	7.00	1472.
100	4.99	32.784	99	25.947	207.8	4.98	206.6	2.66	1.23	7.04	1470.
124	4.61	32.943	123	26.114	192.1	4.60	190.7	3.15	1.78	6.73	1469.
148	4.75	33.284	147	26.369	168.2	4.74	166.5	3.58	2.39	5.61	1470.
172	4.86	33.742	171	26.719	135.3	4.85	133.2	3.95	2.98	4.17	1472.
196	4.80	33.797	195	26.769	130.8	4.78	128.4	4.25	3.53	3.70	1472.
245	4.37	33.836	243	26.847	123.6	4.35	121.0	4.88	4.96	2.73	1471.
292	4.14	33.836	290	26.911	117.9	4.12	115.0	5.45	6.53	1.95	1471.
388	3.86	34.055	385	27.075	103.1	3.83	99.4	6.51	10.18	1.27	1471.
485	3.72	34.107	481	27.129	98.5	3.69	94.2	7.48	14.50	0.92	1472.
585	3.55	34.135	580	27.168	95.5	3.51	90.4	8.45	19.79	0.85	1473.
774	3.22	34.268	767	27.306	83.4	3.17	77.3	10.14	31.51	0.70	1475.
969	2.91	34.362	960	27.409	74.3	2.84	67.4	11.68	45.13	0.65	1477.
1166	2.66	34.429	1154	27.484	67.8	2.58	60.2	13.07	60.27	0.68	1480.
1462	2.33	34.501	1446	27.570	60.3	2.23	52.0	14.95	85.50	0.89	1483.
1958	1.98	34.554	1934	27.641	54.5	1.85	45.0	17.77	134.79	1.45	1490.
2451	1.76	34.624	2419	27.714	48.5	1.59	37.9	20.31	191.64	2.06	1497.
2940	1.61	34.655	2898	27.750	45.8	1.39	34.2	22.60	254.62	2.64	1505.
3419	1.53	34.674	3366	27.771	44.7	1.27	31.9	24.75	324.57	3.14	1513.
3883	1.51	34.684	3819	27.780	45.0	1.20	30.7	26.83	401.62	3.28	1521.
3973	1.51	34.683	3907	27.779	45.3	1.19	30.7	27.23	417.93	3.32	1522.
4054	1.51	34.683	3986	27.779	45.5	1.18	30.6	27.60	432.98	3.37	1524.
4063	1.51	34.683*	3995	27.779	45.5	1.18	30.6	27.64	434.72		1524.



X ØXYGEN, ML/L
0.00
2.00
4.00
6.00
8.00
10.00
+ SALINITY, 0/00
30.50
31.50
32.50
33.50
34.50
35.50
△ TEMPERATURE, C
1.00
4.00
7.00
10.00
13.00
16.00
DEPTH, METRES
X10
X100
X1000
✳ - 75 - 7 - 31

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 7- 31 DATE 7/10/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 17.6
HYDROGRAPHIC CAST DATA

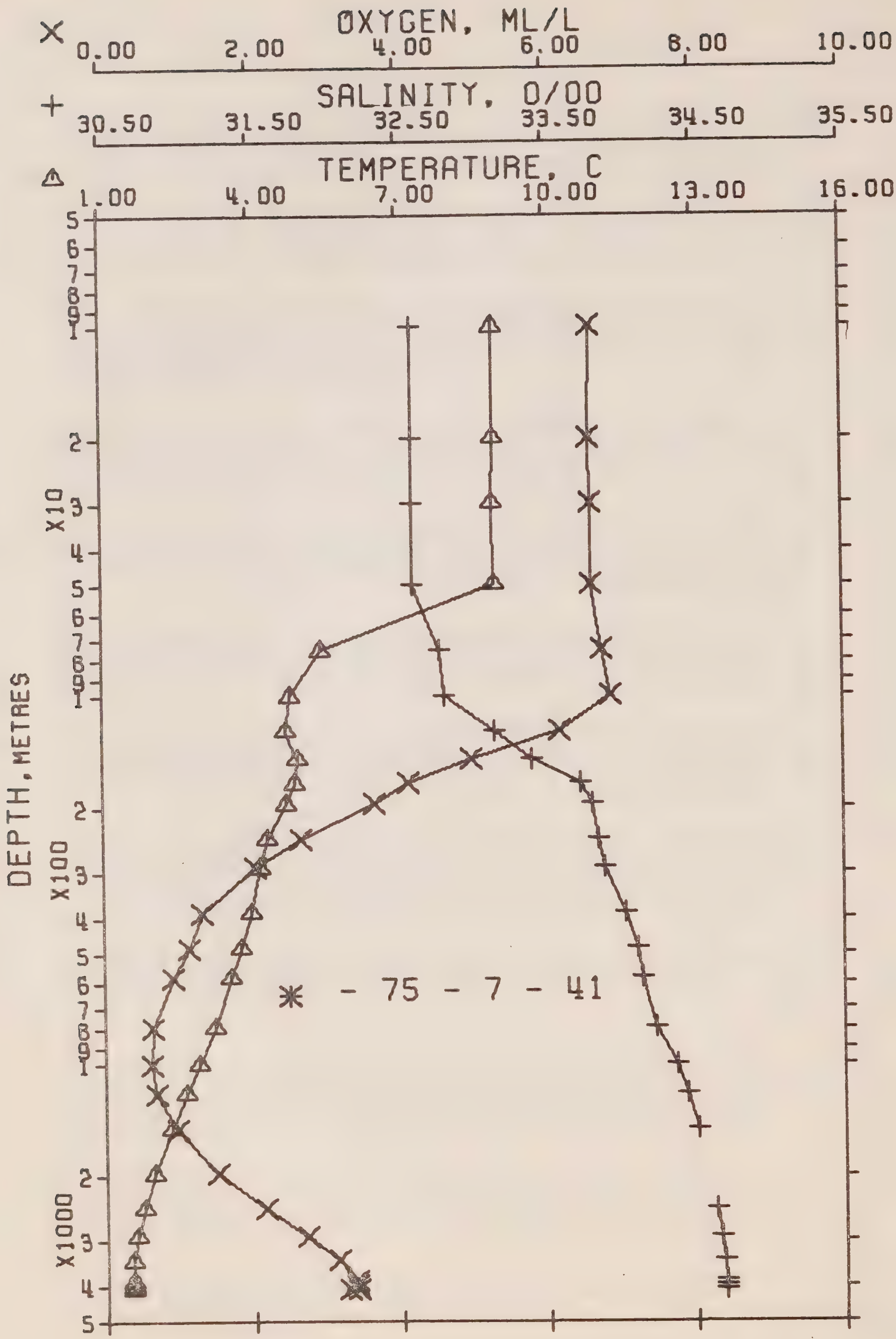
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	10.53	32.513	0	24.947	302.0	10.53	301.8	0.0	0.0	6.38	1489.
10	10.53	32.515	10	24.948	302.0	10.53	301.6	0.30	0.02	6.45	1489.
19	10.53	32.513	19	24.947	302.4	10.53	301.8	0.58	0.06	6.45	1489.
29	10.49	32.515	29	24.955	301.8	10.49	301.0	0.88	0.13	6.46	1489.
48	10.45	32.515	48	24.962	301.5	10.44	300.2	1.46	0.36	6.45	1490.
72	6.09	32.760	72	25.798	221.8	6.08	220.7	2.10	0.75	6.97	1474.
98	5.10	32.804	97	25.950	207.5	5.09	206.3	2.63	1.21	7.00	1470.
122	4.77	33.120	121	26.237	180.4	4.76	179.0	3.10	1.74	6.25	1470.
147	4.95	33.594	146	26.592	147.1	4.94	145.3	3.51	2.30	4.69	1471.
172	4.83	33.780	171	26.753	132.1	4.82	130.1	3.86	2.86	3.97	1471.
197	4.86	33.811	196	26.774	130.4	4.84	128.0	4.19	3.48	3.85	1472.
248	4.32	33.853	246	26.866	121.8	4.30	119.2	4.83	4.93	2.54	1471.
298	4.11	33.931	296	26.990	110.5	4.09	107.4	5.41	6.56	1.89	1471.
398	3.93	34.019	395	27.038	106.7	3.90	102.8	6.49	10.38	1.33	1472.
496	3.73	34.114	492	27.134	98.3	3.69	93.7	7.49	14.95	0.97	1473.
590	3.50	34.148	585	27.183	94.0	3.46	88.9	8.39	19.94	0.91	1473.
773	3.24	34.278	766	27.312	82.8	3.19	76.7	10.01	31.17	0.69	1475.
960	2.92	34.364	951	27.410	74.2	2.85	67.3	11.47	44.10	0.65	1477.
1150	2.69	34.429	1138	27.482	68.0	2.61	60.5	12.81	58.53	0.69	1479.
1440	2.37	34.495	1424	27.562	61.1	2.27	52.7	14.68	83.13	0.78	1483.
1934	2.01	34.571	1911	27.652	53.5	1.88	44.0	17.49	131.48	1.41	1490.
2436	1.77	34.625	2404	27.714	48.5	1.60	37.9	20.03	188.13	2.01	1497.
2941	1.62	34.652	2899	27.746	46.2	1.40	34.5	22.41	253.36	2.57	1505.
3444	1.54	34.672	3391	27.768	45.0	1.28	32.1	24.69	327.66	3.04	1513.
3938	1.50	34.669	3873	27.769	46.0	1.18	31.7	26.94	412.40	3.07	1522.
4036	1.51	34.675	3968	27.773	45.9	1.18	31.3	27.39	430.59	3.11	1523.
4123	1.49	34.664	4053	27.766	46.7	1.15	31.9	27.79	447.12	3.05	1525.
4132	1.51	34.659	4062	27.760	47.4	1.17	32.5	27.83	448.95	2.97	1525.



OXYGEN, ML/L
0.00 2.00 4.00 6.00 8.00 10.00
SALINITY, O/OO
30.50 31.50 32.50 33.50 34.50 35.50
TEMPERATURE, C
1.00 4.00 7.00 10.00 13.00 16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 7 - 37

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 7- 37 DATE 13/10/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 17.6
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	10.23	32.496	0	24.984	298.4	10.23	298.2	0.0	0.0	6.46	1488.
10	10.22	32.500	10	24.989	298.1	10.22	297.7	0.30	0.02	6.59	1488.
19	10.21	32.511	19	25.000	297.4	10.21	296.7	0.57	0.06	6.51	1488.
29	10.14	32.520	29	25.018	295.7	10.14	294.9	0.87	0.13	6.53	1488.
48	6.48	32.715	48	25.714	229.7	6.48	228.8	1.38	0.33	7.01	1475.
72	5.70	32.758	72	25.844	217.4	5.69	216.3	1.90	0.65	6.94	1472.
98	4.98	32.789	97	25.952	207.3	4.97	206.1	2.44	1.12	7.02	1470.
123	4.84	33.035	122	26.162	187.6	4.83	186.2	2.94	1.68	6.26	1470.
148	4.91	33.601	147	26.602	146.1	4.90	144.4	3.36	2.26	4.62	1471.
173	4.70	33.791	172	26.776	129.9	4.69	127.9	3.70	2.82	3.72	1471.
198	4.49	33.812	197	26.815	126.4	4.48	124.1	4.02	3.43	3.40	1471.
250	4.23	33.852	248	26.883	120.3	4.21	117.7	4.66	4.88	2.17	1470.
300	4.06	33.916	298	26.943	114.9	4.04	111.9	5.25	6.54	1.65	1471.
403	3.89	34.019	400	27.042	106.3	3.86	102.5	6.39	10.61	1.25	1472.
504	3.70	34.115	500	27.138	97.9	3.66	93.3	7.41	15.36	0.95	1473.
602	3.51	34.152	597	27.186	93.8	3.47	88.7	8.35	20.65	0.83	1473.
792	3.21	34.257	785	27.298	84.2	3.16	78.0	10.05	32.69	0.69	1475.
993	2.89	34.365	983	27.413	74.0	2.82	67.0	11.63	47.05	0.68	1478.
1192	2.65	34.425	1180	27.482	68.1	2.57	60.4	13.04	62.78	0.70	1480.
1491	2.33	34.490	1475	27.561	61.3	2.23	52.8	14.97	89.13	0.92	1484.
1986	1.97	34.561	1962	27.647	54.0	1.83	44.4	17.80	139.30		1490.
2478	1.75	34.608	2445	27.702	49.6	1.57	39.0	20.33	196.92	2.06	1498.
2967	1.62	34.634	2924	27.732	47.5	1.40	35.9	22.69	262.53	2.56	1505.
3451	1.53	34.654	3398	27.755	46.3	1.26	33.5	24.95	336.49	3.05	1513.
3934	1.53	34.652	3869	27.753	47.6	1.21	33.3	27.24	422.65	3.29	1522.
4030	1.51	34.652	3962	27.763	46.8	1.18	32.3	27.69	440.93	3.34	1523.
4117	1.51	34.663	4047	27.763	47.0	1.17	32.2	28.11	458.52	3.38	1525.
4126	1.52	34.668	4056	27.783	45.4	1.18	30.3	28.15	460.31	3.17	1525.


OXYGEN, ML/L
0.00
2.00
4.00
6.00
8.00
10.00
SALINITY, O/OO
30.50
31.50
32.50
33.50
34.50
35.50
TEMPERATURE, C
1.00
4.00
7.00
10.00
13.00
16.00
DEPTH, METRES
X10
X100
X1000
* - 75 - 7 - 41

OFFSHORE OCEANOGRAPHY GROUP REFERENCE NO. 75- 7- 41 DATE 20/10/75
POSITION 50- 0.0 N, 145- 0.0 W GMT 18.5
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	8.95	32.601	0	25.274	270.9	8.95	270.7	0.0	0.0	6.58	1483.
10	8.94	32.603	10	25.277	270.8	8.94	270.4	0.27	0.01	6.63	1484.
20	8.96	32.601	20	25.272	271.4	8.96	270.7	0.55	0.06	6.61	1484.
30	8.92	32.605	30	25.281	270.7	8.92	269.8	0.82	0.13	6.62	1484.
50	8.94	32.602	50	25.276	271.5	8.93	270.4	1.37	0.35	6.61	1484.
75	5.42	32.783	75	25.897	212.4	5.41	211.4	1.98	0.74	6.76	1471.
101	4.79	32.815	100	25.993	203.4	4.78	202.2	2.50	1.21	6.89	1469.
125	4.70	33.150	124	26.268	177.5	4.69	176.0	2.96	1.74	6.19	1469.
149	4.94	33.405	148	26.444	161.2	4.93	159.4	3.37	2.31	4.99	1471.
173	4.88	33.735	172	26.711	136.1	4.87	133.9	3.73	2.90	4.13	1472.
197	4.70	33.807	196	26.788	129.0	4.69	126.6	4.04	3.50	3.65	1471.
245	4.31	33.846	243	26.862	122.3	4.29	119.7	4.64	4.83	2.66	1471.
293	4.14	33.893	291	26.917	117.4	4.12	114.4	5.22	6.42	2.05	1471.
388	3.96	34.031	385	27.045	106.0	3.93	102.2	6.27	10.09	1.33	1472.
484	3.75	34.106	480	27.126	98.9	3.72	94.5	7.25	14.44	1.14	1473.
582	3.55	34.143	577	27.175	94.8	3.51	89.8	8.20	19.58	0.92	1473.
799	3.23	34.232	792	27.276	86.3	3.17	80.1	10.17	33.51	0.64	1476.
1005	2.88	34.368	995	27.416	73.7	2.81	66.7	11.82	48.57	0.62	1478.
1207	2.63	34.443	1195	27.498	66.6	2.55	58.8	13.23	64.50	0.69	1480.
1507	2.32	34.508	1490	27.576	59.9	2.22	51.3	15.11	90.54	0.95	1484.
1998	1.96	34.581*	1974	27.663	52.5	1.82	42.8	17.85	139.50	1.50	1491.
2483	1.74	34.627	2450	27.718	48.2	1.56	37.5	20.28	194.94	2.14	1498.
2966	1.60	34.663	2923	27.757	45.1	1.38	33.5	22.52	257.18	2.69	1505.
3452	1.52	34.682	3398	27.778	44.1	1.26	31.3	24.67	327.69	3.11	1513.
3945	1.51	34.691	3880	27.786	44.6	1.19	30.1	26.85	409.75	3.35	1522.
4046	1.51	34.689	3978	27.784	45.1	1.18	30.2	27.30	428.12	3.36	1524.
4136	1.51	34.686	4066	27.782	45.5	1.17	30.4	27.71	445.23	3.39	1525.
4147	1.51	34.688	4076	27.783	45.3	1.17	30.2	27.76	447.20	3.25	1525.

RESULTS OF STP OBSERVATIONS

(P-75-7)

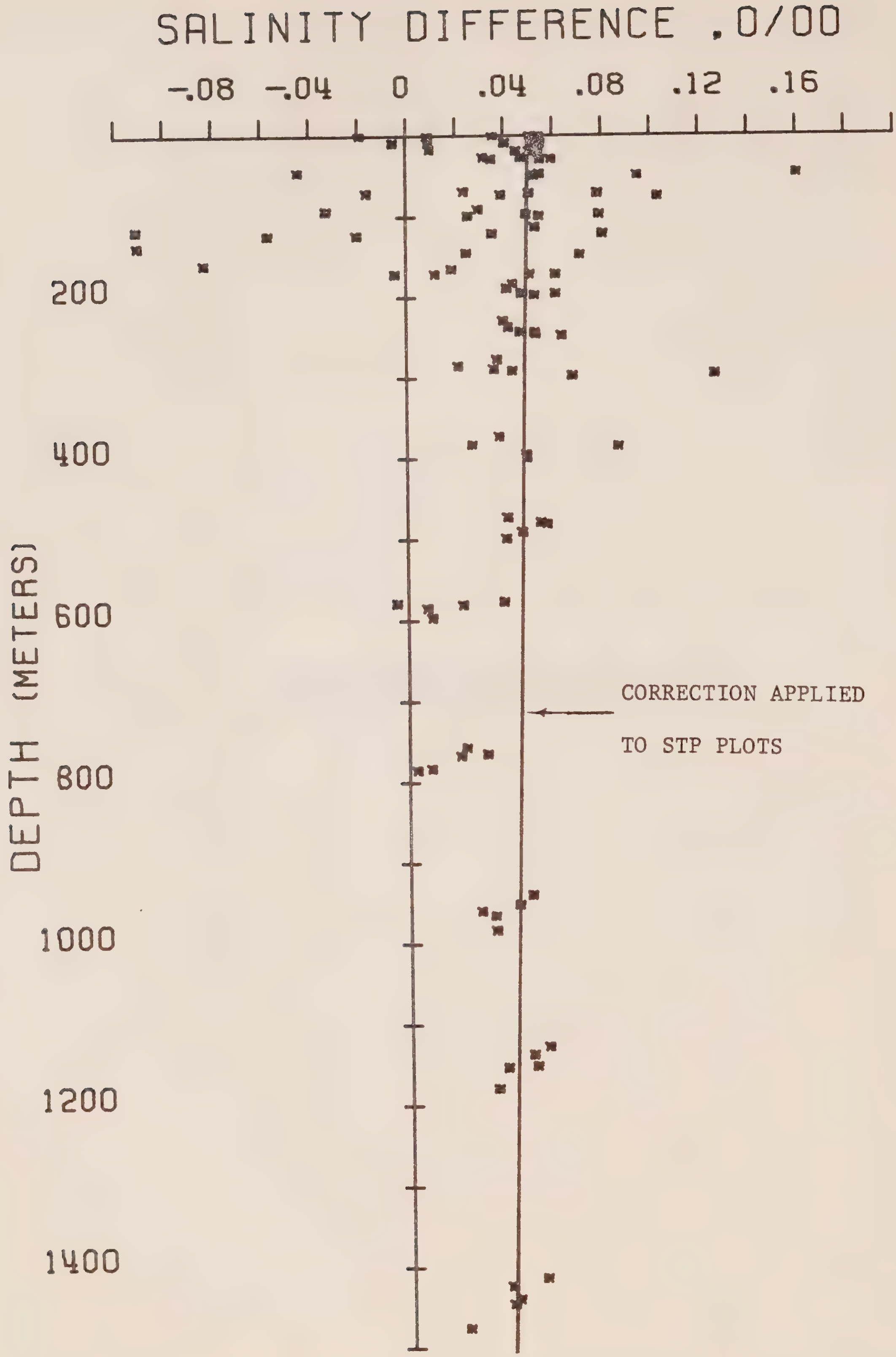


Figure 5. Salinity difference between hydro data and STP. P-75-7

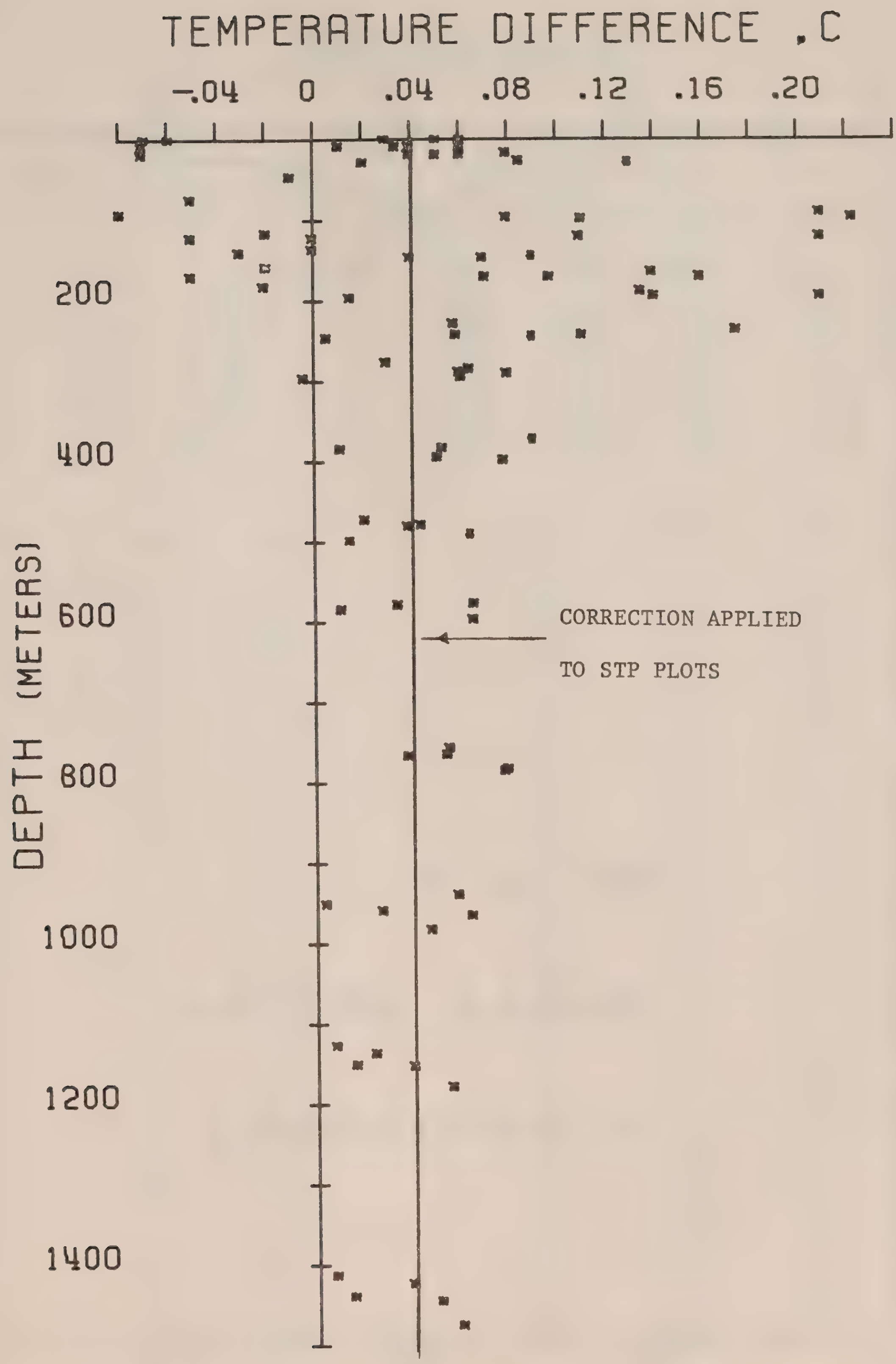
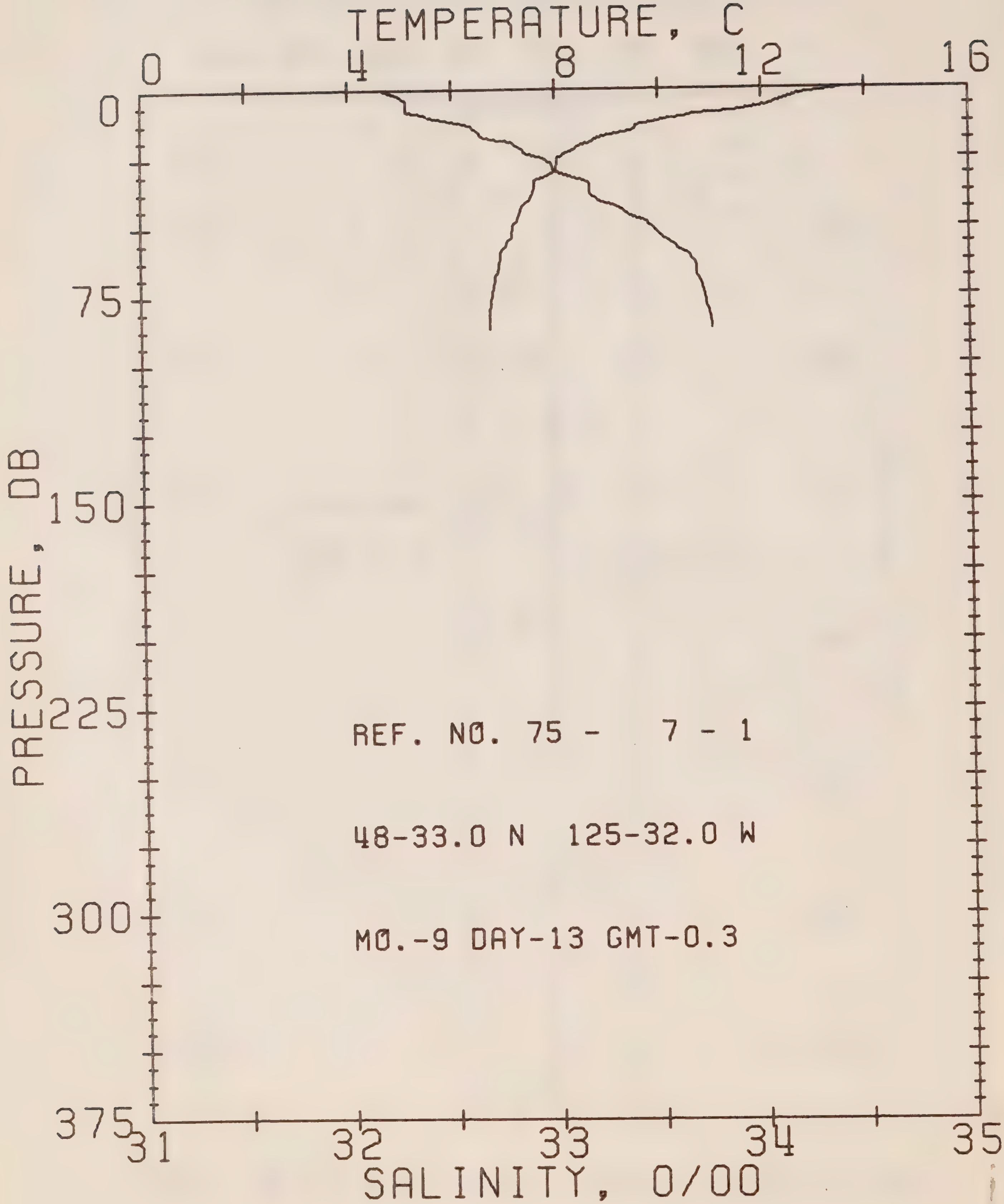


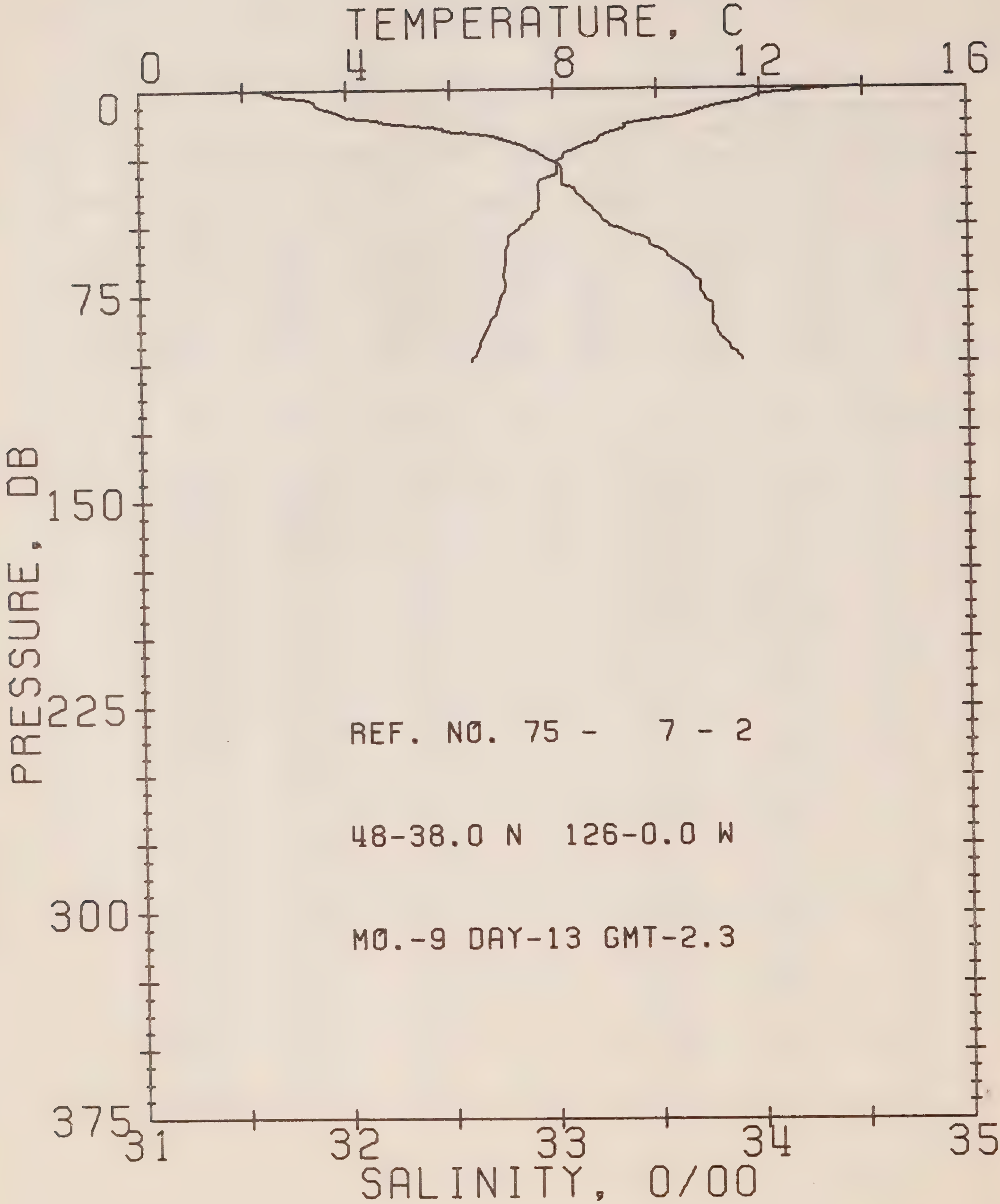
Figure 6. Temperature difference between hydro data and STP. P-75-7


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 1
48-33.0 N 125-32.0 W
MO.-9 DAY-13 GMT-0.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 1 DATE 13/ 9/75
POSITION 48-33.0N, 125-32.0W GMT 0.3
RESULTS OF STP CAST 58 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.54	32.16	0	24.11	381.3	0.0	0.0	1499.
10	10.48	32.39	10	24.86	310.5	0.35	0.02	1489.
20	8.52	32.80	20	25.50	250.2	0.62	0.06	1482.
30	7.98	33.01	30	25.74	227.1	0.86	0.12	1481.
50	7.17	33.47	50	26.22	182.1	1.27	0.28	1479.
75	6.78	33.72	75	26.47	158.8	1.68	0.55	1478.

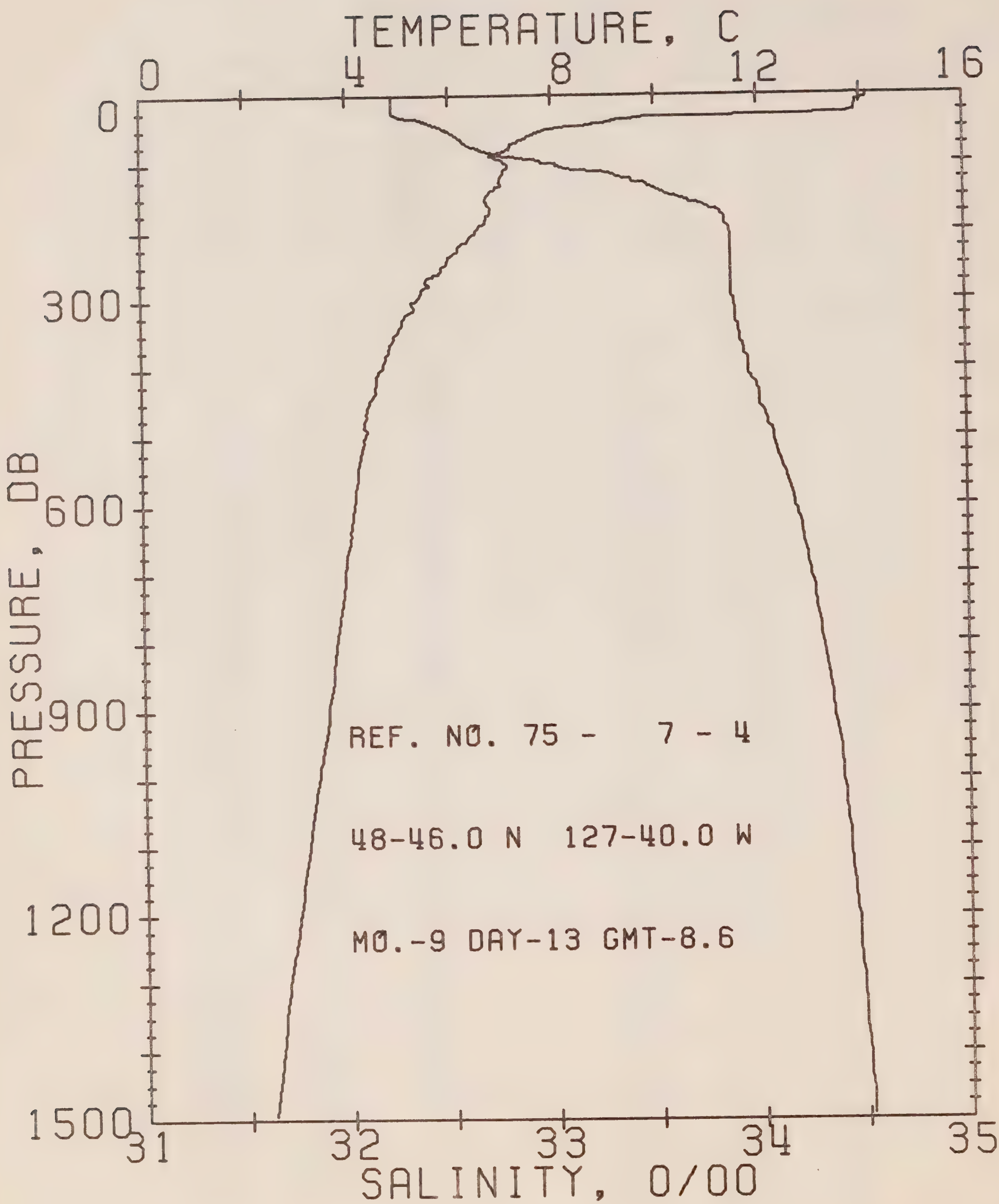
DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	13.54	32.16	40.	7.53	33.20
2.	12.72	32.24	41.	7.44	33.23
4.	12.40	32.28	42.	7.40	33.28
6.	12.11	32.28	44.	7.33	33.33
8.	11.43	32.28	46.	7.30	33.36
9.	10.72	32.37	48.	7.24	33.44
10.	10.48	32.39	49.	7.21	33.45
11.	10.09	32.46	50.	7.17	33.47
12.	9.86	32.53	51.	7.17	33.48
13.	9.58	32.59	53.	7.15	33.51
14.	9.56	32.60	54.	7.14	33.52
15.	9.46	32.62	55.	7.09	33.55
17.	8.93	32.64	57.	7.05	33.58
18.	8.77	32.69	58.	6.98	33.59
19.	8.71	32.79	59.	6.95	33.62
20.	8.52	32.80	60.	6.94	33.64
21.	8.42	32.83	62.	6.92	33.66
22.	8.37	32.84	64.	6.91	33.68
23.	8.22	32.85	65.	6.90	33.68
25.	8.06	32.94	67.	6.87	33.68
27.	8.05	32.98	68.	6.84	33.68
29.	8.02	32.99	70.	6.83	33.70
30.	7.98	33.01	72.	6.81	33.71
32.	7.75	33.09	75.	6.78	33.72
33.	7.60	33.14	78.	6.75	33.73
34.	7.59	33.16	79.	6.74	33.73
35.	7.60	33.17	81.	6.72	33.74
36.	7.60	33.17	86.	6.71	33.75
38.	7.57	33.17	87.	6.71	33.75


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 2
48-38.0 N 126-0.0 W
MO.-9 DAY-13 GMT-2.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 2 DATE 13/ 9/75
POSITION 48-38.0N, 126- 0.0W GMT 2.3
RESULTS OF STP CAST 85 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.57	31.59	0	23.67	423.7	0.0	0.0	1499.
10	10.47	32.01	10	24.57	338.4	0.37	0.02	1488.
20	8.61	32.84	20	25.51	248.5	0.66	0.06	1483.
30	8.09	33.04	30	25.75	226.4	0.89	0.12	1481.
50	7.36	33.27	50	26.03	199.5	1.32	0.29	1479.
75	6.98	33.72	75	26.44	161.3	1.75	0.57	1479.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	13.57	31.59	48.	7.49	33.24
1.	12.81	31.63	49.	7.44	33.26
2.	12.04	31.66	50.	7.36	33.27
3.	11.89	31.79	51.	7.33	33.33
4.	11.79	31.85	53.	7.18	33.38
5.	11.54	31.85	54.	7.13	33.43
6.	11.20	31.86	55.	7.13	33.46
8.	10.80	31.95	57.	7.13	33.46
10.	10.47	32.01	59.	7.08	33.53
11.	10.00	32.15	60.	7.08	33.54
12.	9.62	32.19	61.	7.07	33.55
13.	9.36	32.32	62.	7.06	33.57
14.	9.40	32.46	63.	7.06	33.59
15.	9.26	32.47	64.	7.06	33.61
16.	9.07	32.63	66.	7.04	33.65
17.	8.92	32.71	67.	7.03	33.65
19.	8.86	32.79	68.	7.02	33.67
20.	8.61	32.84	69.	7.01	33.68
21.	8.51	32.87	70.	7.04	33.71
22.	8.44	32.88	72.	7.06	33.71
23.	8.24	32.93	73.	7.05	33.71
25.	8.20	32.96	74.	7.04	33.71
26.	8.07	32.99	75.	6.98	33.72
27.	8.08	33.02	77.	6.95	33.73
29.	8.09	33.04	78.	6.94	33.76
30.	8.09	33.04	79.	6.93	33.77
31.	8.09	33.04	80.	6.90	33.77
32.	7.93	33.04	82.	6.88	33.77
33.	7.77	33.04	84.	6.78	33.77
34.	7.74	33.04	86.	6.74	33.77
35.	7.71	33.04	87.	6.71	33.78
36.	7.71	33.10	88.	6.68	33.79
37.	7.72	33.10	89.	6.67	33.79
38.	7.72	33.11	91.	6.62	33.81
39.	7.74	33.13	92.	6.58	33.83
40.	7.72	33.14	93.	6.57	33.84
41.	7.73	33.15	94.	6.56	33.85
42.	7.72	33.17	95.	6.53	33.85
43.	7.72	33.18	96.	6.50	33.88
44.	7.70	33.19	97.	6.49	33.89
45.	7.60	33.21	98.	6.44	33.90
46.	7.59	33.22	99.	6.39	33.91
47.	7.57	33.23			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4
8
12
16
0
300
600
900
1200
1500
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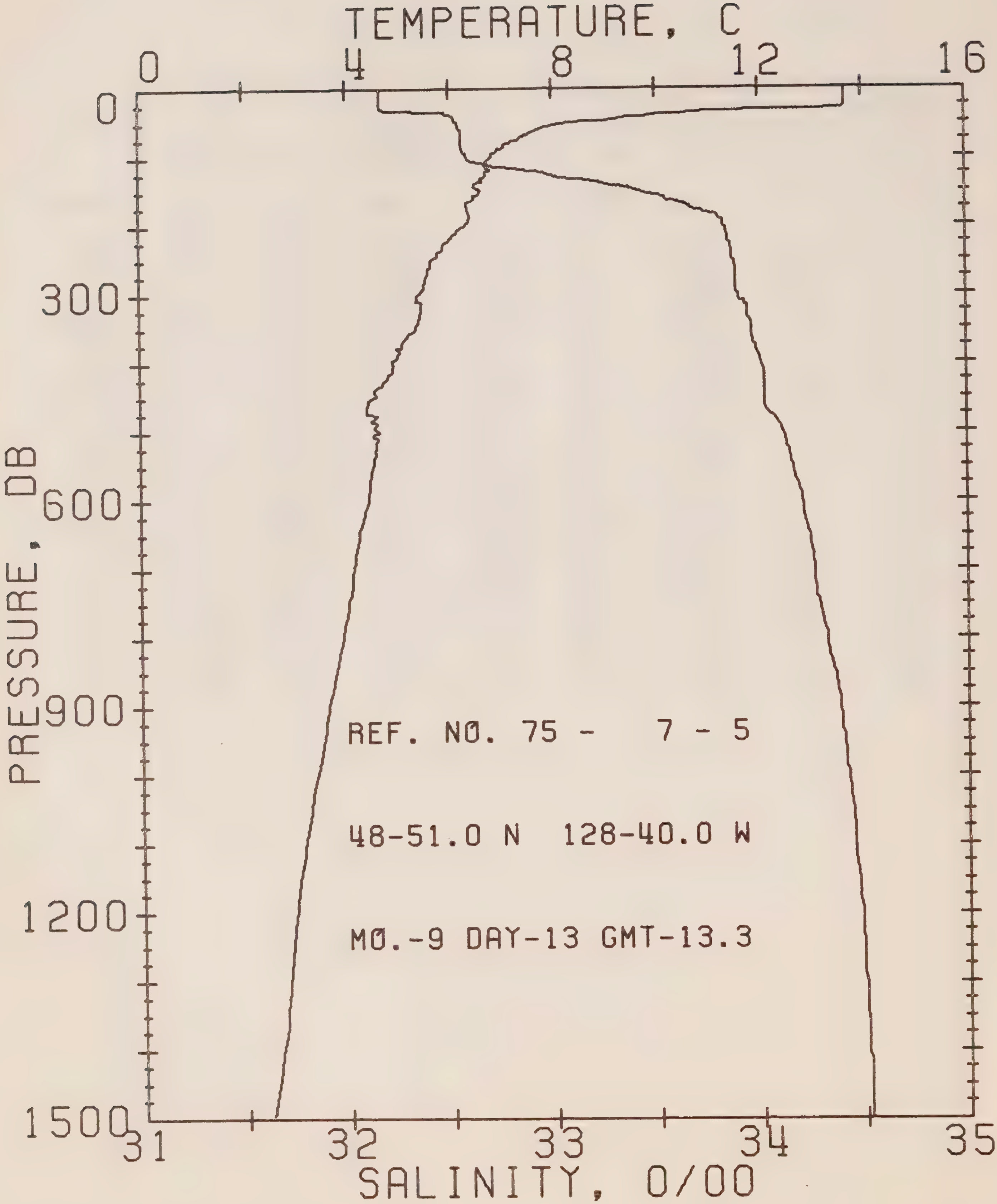
REF. NO. 75 - 7 - 4
48-46.0 N 127-40.0 W
MO.-9 DAY-13 GMT-8.6
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 4 DATE 13/ 9/75
POSITION 48-46.0N, 127-40.0W GMT 8.6
RESULTS OF STP CAST 359 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.14	32.23	0	24.04	387.7	0.0	0.0	1501.
10	14.01	32.23	10	24.07	385.7	0.39	0.02	1501.
20	13.90	32.23	20	24.09	383.7	0.77	0.08	1501.
30	12.54	32.25	30	24.38	356.8	1.15	0.18	1496.
50	7.93	32.48	50	25.33	266.1	1.74	0.41	1480.
75	7.19	32.61	75	25.54	246.9	2.38	0.82	1478.
100	7.09	32.95	99	25.82	220.5	2.96	1.34	1478.
125	6.98	33.39	124	26.18	186.6	3.47	1.92	1479.
150	6.71	33.60	149	26.38	167.6	3.91	2.54	1479.
175	6.77	33.82	174	26.55	152.6	4.31	3.20	1479.
200	6.51	33.86	199	26.61	146.6	4.69	3.91	1479.
225	6.17	33.87	223	26.66	141.8	5.05	4.69	1478.
250	5.89	33.87	248	26.70	138.7	5.40	5.54	1477.
300	5.35	33.88	298	26.77	132.0	6.07	7.43	1476.
400	4.67	33.95	397	26.91	119.9	7.33	11.91	1475.
500	4.33	34.07	496	27.04	108.1	8.47	17.11	1475.
600	4.11	34.17	595	27.14	99.0	9.50	22.90	1476.
800	3.75	34.29	793	27.28	87.4	11.35	36.10	1478.
1000	3.36	34.39	991	27.39	77.5	13.00	51.15	1480.
1200	2.97	34.46	1188	27.48	69.4	14.47	67.61	1481.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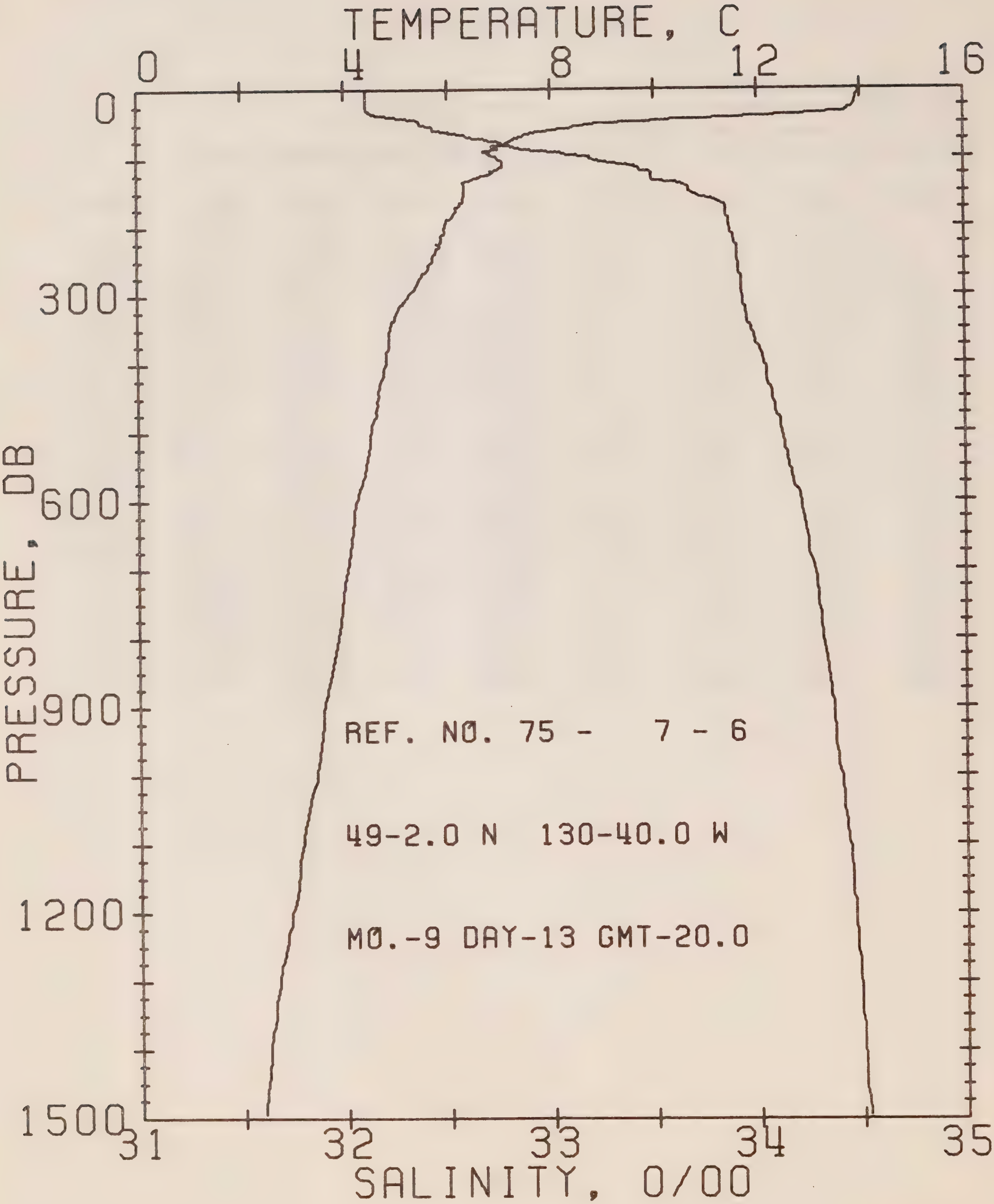
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NØ. 75 - 7 - 5
48-51.0 N 128-40.0 W
MØ.-9 DAY-13 GMT-13.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 5 DATE 13/ 9/75
POSITION 48-51.0N, 128-40.0W GMT 13.3
RESULTS OF STP CAST 371 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.67	32.17	0	24.09	383.0	0.0	0.0	1500.
10	13.68	32.17	10	24.09	383.7	0.38	0.02	1500.
20	13.68	32.17	20	24.09	383.9	0.77	0.08	1500.
30	13.64	32.17	30	24.10	383.1	1.15	0.18	1500.
50	8.51	32.54	50	25.29	269.9	1.76	0.42	1483.
75	7.33	32.56	75	25.48	252.4	2.41	0.83	1478.
100	6.82	32.59	99	25.57	243.9	3.03	1.39	1477.
125	6.72	32.99	124	25.90	213.1	3.61	2.05	1477.
150	6.60	33.41	149	26.25	180.6	4.10	2.73	1478.
175	6.34	33.67	174	26.49	157.9	4.51	3.42	1478.
200	6.30	33.83	199	26.61	146.2	4.89	4.14	1478.
225	5.91	33.85	224	26.68	139.8	5.25	4.91	1477.
250	5.65	33.87	248	26.73	135.7	5.59	5.75	1476.
300	5.40	33.89	298	26.78	131.5	6.26	7.62	1476.
400	4.89	34.00	397	26.92	118.4	7.51	12.08	1476.
500	4.60	34.11	496	27.04	108.2	8.65	17.26	1476.
600	4.38	34.20	595	27.14	99.8	9.68	23.09	1477.
800	3.89	34.32	793	27.28	87.1	11.55	36.37	1479.
1000	3.37	34.42	991	27.41	75.4	13.17	51.14	1480.
1200	2.95	34.48	1188	27.50	67.4	14.59	67.07	1481.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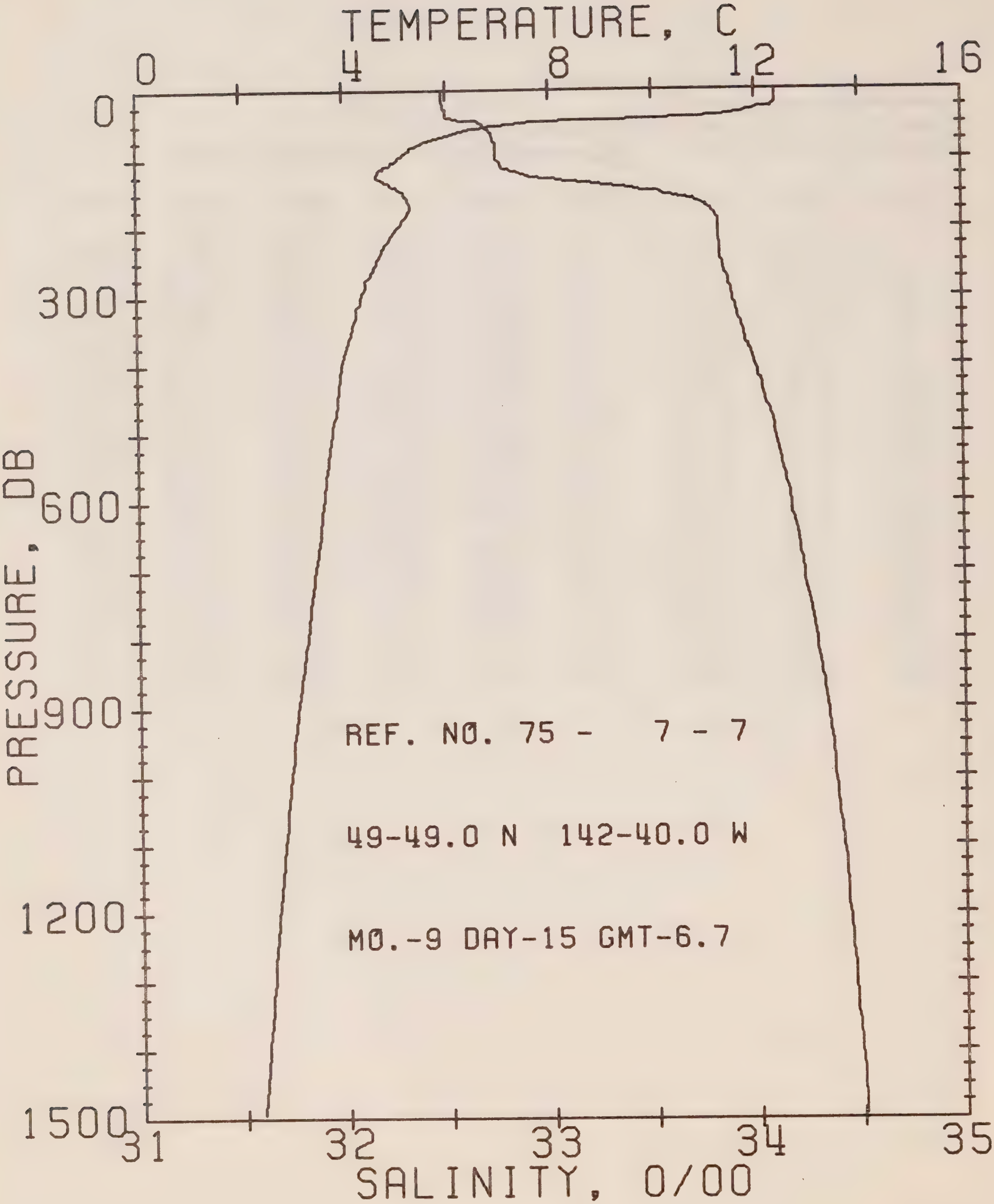
REF. NØ. 75 - 7 - 6
49-2.0 N 130-40.0 W
MØ.-9 DAY-13 GMT-20.0
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 6 DATE 13/ 9/75
POSITION 49- 2.0N, 130-40.0W GMT 20.0
RESULTS OF STP CAST 362 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.98	32.11	0	23.98	393.5	0.0	0.0	1501.
10	13.93	32.11	10	24.00	392.9	0.39	0.02	1501.
20	13.89	32.11	20	24.00	392.4	0.79	0.08	1501.
30	13.75	32.11	30	24.03	389.9	1.18	0.18	1500.
50	9.32	32.36	50	25.03	294.8	1.88	0.46	1485.
75	7.22	32.71	75	25.61	239.8	2.54	0.88	1478.
100	6.95	33.19	99	26.03	200.8	3.09	1.37	1478.
125	6.80	33.49	124	26.28	176.8	3.56	1.91	1478.
150	6.33	33.67	149	26.49	157.8	3.98	2.49	1477.
175	6.15	33.85	174	26.65	142.4	4.35	3.11	1477.
200	5.94	33.86	199	26.68	139.4	4.70	3.78	1477.
225	5.81	33.89	223	26.72	135.9	5.05	4.53	1477.
250	5.69	33.90	248	26.75	134.0	5.39	5.34	1476.
300	5.23	33.92	298	26.82	127.6	6.04	7.17	1475.
400	4.79	34.03	397	26.95	115.4	7.25	11.47	1475.
500	4.50	34.11	496	27.05	106.7	8.36	16.56	1476.
600	4.20	34.21	595	27.16	97.4	9.39	22.32	1476.
800	3.84	34.31	793	27.28	87.3	11.23	35.43	1478.
1000	3.41	34.40	991	27.39	77.4	12.87	50.46	1480.
1200	2.91	34.46	1188	27.49	68.6	14.32	66.72	1481.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49-49.0 N 142-40.0 W
MO.-9 DAY-15 GMT-6.7
31
32
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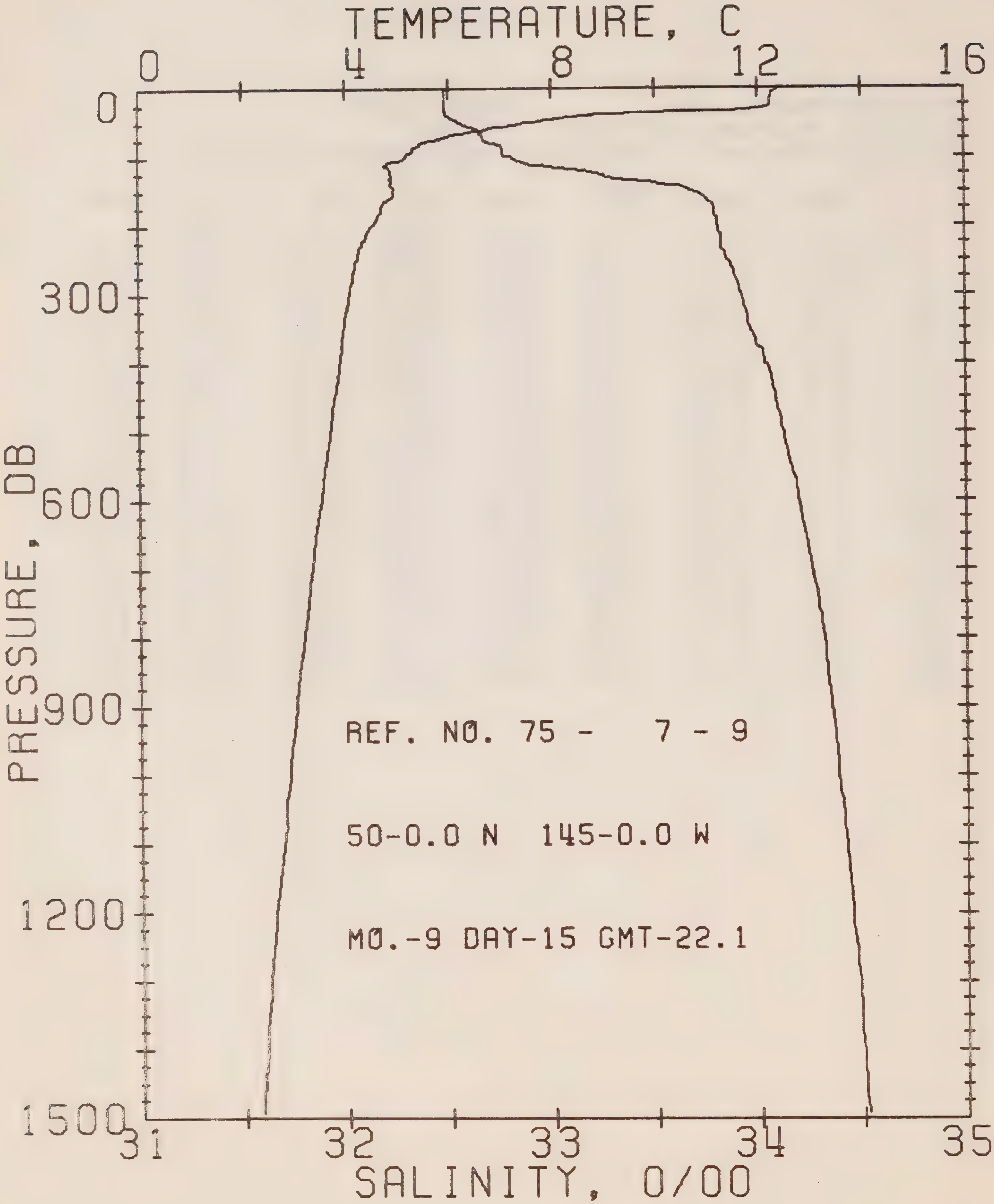
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 7 DATE 15/ 9/75
POSITION 49-49.0N, 142-40.0W GMT 6.7
RESULTS OF STP CAST 260 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.41	32.48	0	24.58	336.7	0.0	0.0	1496.
10	12.41	32.48	10	24.58	337.1	0.34	0.02	1496.
20	12.39	32.49	20	24.59	336.2	0.67	0.07	1496.
30	11.94	32.50	30	24.68	327.6	1.01	0.15	1495.
50	7.34	32.68	50	25.57	243.3	1.60	0.39	1478.
75	5.59	32.73	75	25.84	218.1	2.17	0.75	1472.
100	5.06	32.74	99	25.90	211.9	2.70	1.23	1470.
125	4.65	32.90	124	26.08	195.7	3.22	1.82	1469.
150	5.17	33.54	149	26.52	153.8	3.65	2.42	1472.
175	5.28	33.79	174	26.71	136.5	4.01	3.01	1473.
200	5.04	33.82	199	26.76	131.8	4.34	3.65	1473.
225	4.81	33.83	223	26.79	128.7	4.67	4.36	1472.
250	4.63	33.84	248	26.82	126.5	4.99	5.13	1472.
300	4.34	33.89	298	26.89	120.0	5.60	6.85	1472.
400	3.95	33.99	397	27.02	108.8	6.75	10.93	1472.
500	3.76	34.09	496	27.11	100.4	7.79	15.71	1473.
600	3.57	34.17	595	27.19	93.4	8.76	21.14	1474.
800	3.24	34.29	793	27.32	82.2	10.52	33.66	1476.
1000	2.91	34.37	990	27.42	73.8	12.07	47.87	1478.
1200	2.66	34.44	1188	27.49	67.3	13.48	63.62	1480.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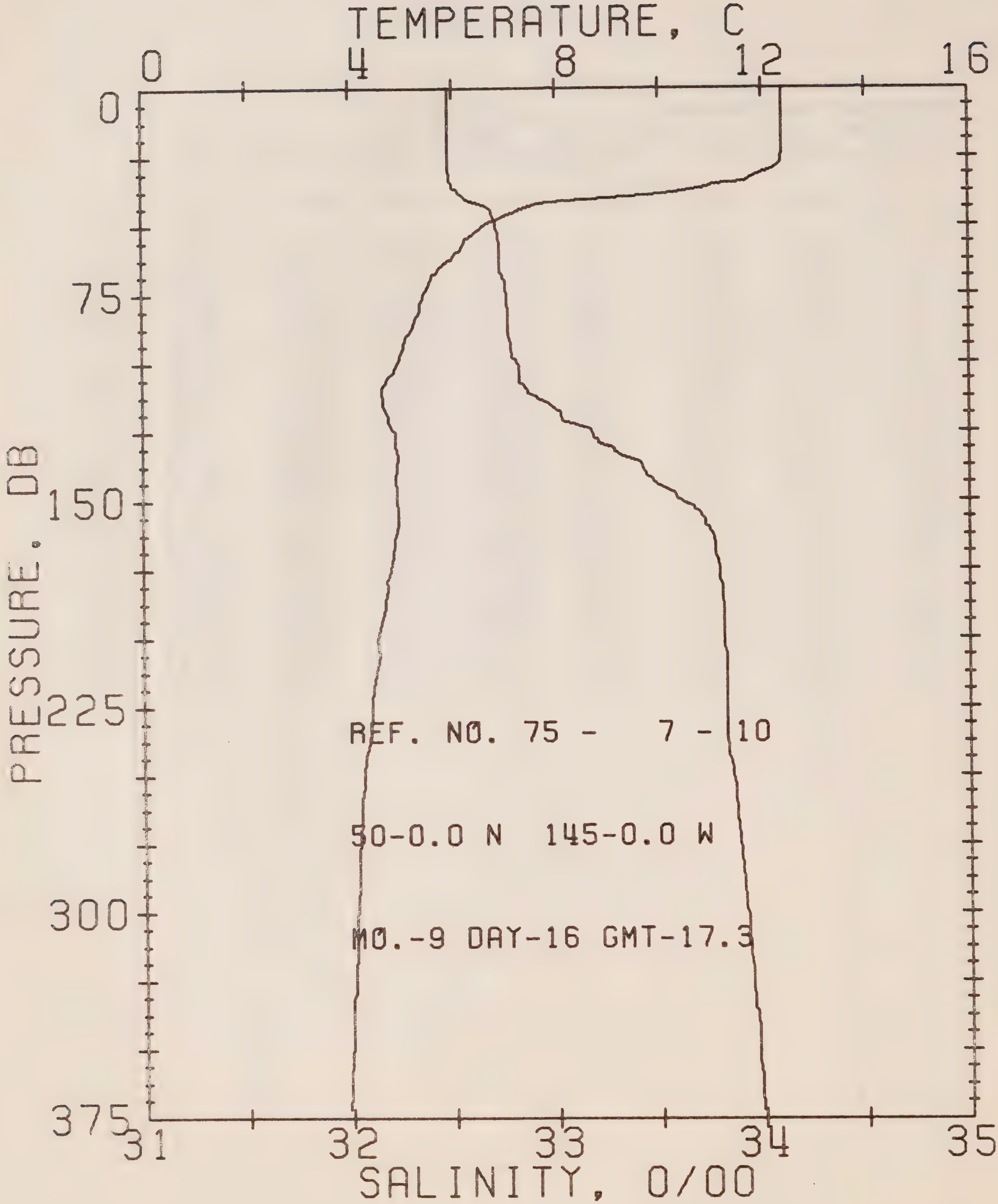
REF. NO. 75 - 7 - 9
50-0.0 N 145-0.0 W
MO.-9 DAY-15 GMT-22.1
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 9 DATE 15/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 22.1
RESULTS OF STP CAST 268 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.39	32.48	0	24.58	336.3	0.0	0.0	1496.
10	12.26	32.48	10	24.61	334.5	0.34	0.02	1495.
20	12.25	32.48	20	24.61	334.4	0.67	0.07	1495.
30	12.10	32.48	30	24.64	331.9	1.00	0.15	1495.
50	7.59	32.55	50	25.43	256.3	1.58	0.38	1479.
75	5.68	32.67	75	25.78	223.8	2.17	0.76	1472.
100	5.17	32.80	99	25.94	208.5	2.71	1.24	1470.
125	4.90	33.24	124	26.32	172.9	3.19	1.79	1470.
150	4.94	33.67	149	26.65	141.4	3.58	2.34	1471.
175	4.59	33.78	174	26.77	130.3	3.92	2.89	1471.
200	4.51	33.80	199	26.80	127.5	4.24	3.51	1471.
225	4.33	33.82	223	26.84	124.3	4.55	4.19	1470.
250	4.22	33.85	248	26.87	121.1	4.86	4.93	1470.
300	4.07	33.91	298	26.94	115.1	5.45	6.58	1471.
400	3.88	34.03	397	27.05	105.3	6.55	10.51	1472.
500	3.69	34.12	496	27.14	97.5	7.56	15.13	1473.
600	3.51	34.19	595	27.22	91.0	8.50	20.40	1473.
800	3.16	34.31	793	27.35	79.5	10.20	32.49	1475.
1000	2.88	34.38	990	27.43	72.8	11.72	46.37	1478.
1200	2.60	34.45	1188	27.51	65.8	13.10	61.83	1480.



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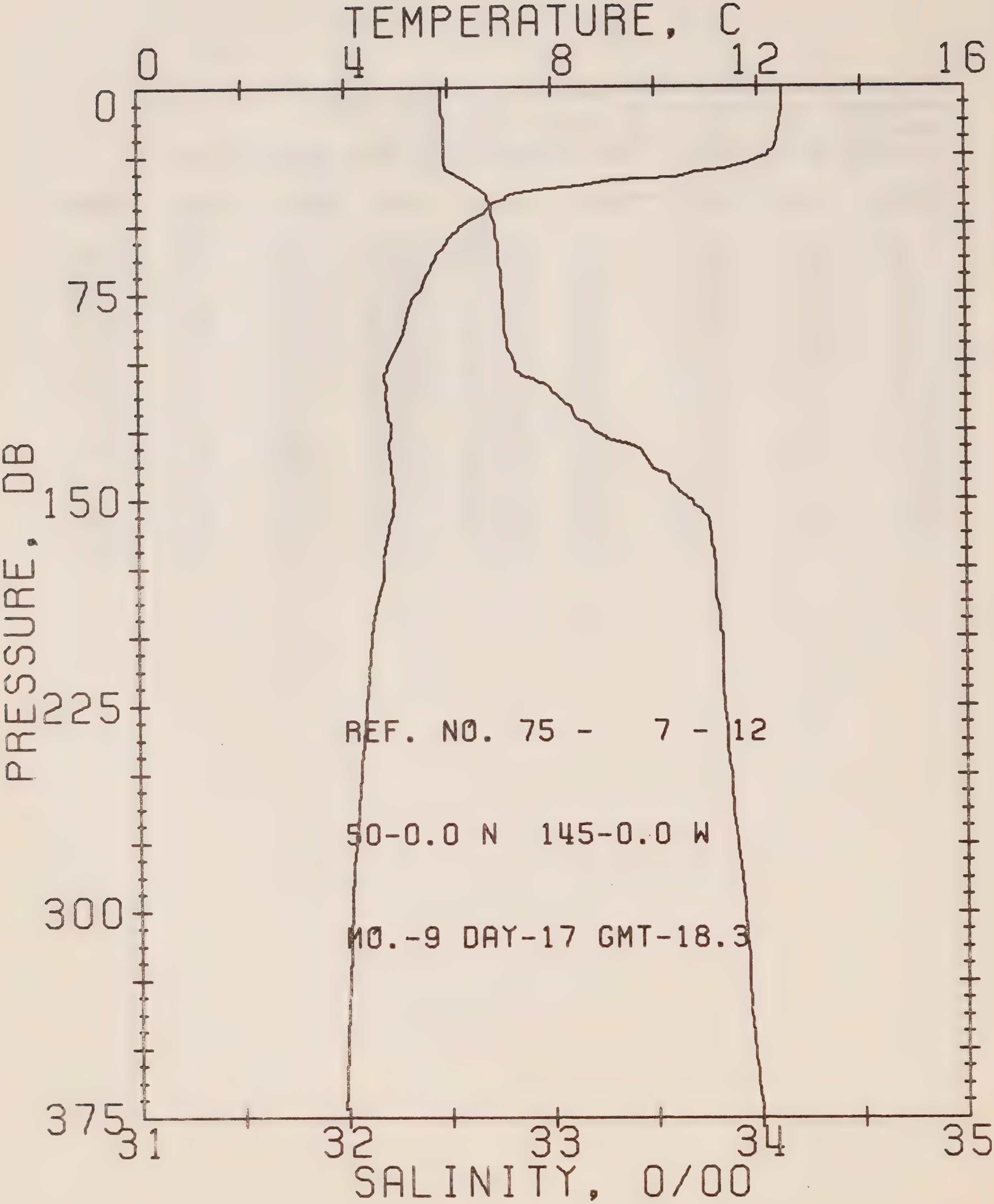
375
PRESSURE. DB
REF. NO. 75 - 7 - 10
50-0.0 N 145-0.0 W
MO.-9 DAY-16 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 10 DATE 16/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 192 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.41	32.48	0	24.58	336.7	0.0	0.0	1496.
10	12.40	32.48	10	24.58	336.9	0.34	0.02	1496.
20	12.40	32.48	20	24.58	337.1	0.67	0.07	1496.
30	12.12	32.48	30	24.64	332.3	1.01	0.15	1495.
50	6.60	32.71	50	25.69	231.6	1.57	0.38	1475.
75	5.41	32.76	75	25.88	214.0	2.12	0.73	1471.
100	4.90	32.81	99	25.98	204.9	2.65	1.20	1469.
125	4.87	33.17	124	26.27	177.8	3.13	1.75	1470.
150	4.91	33.61	149	26.61	145.5	3.54	2.32	1471.
175	4.78	33.79	174	26.77	130.9	3.88	2.88	1471.
200	4.52	33.81	199	26.81	126.8	4.20	3.50	1471.
225	4.40	33.82	223	26.83	125.0	4.51	4.18	1471.
250	4.24	33.85	248	26.87	121.3	4.82	4.92	1470.
300	4.09	33.91	298	26.94	115.3	5.41	6.58	1471.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150
225
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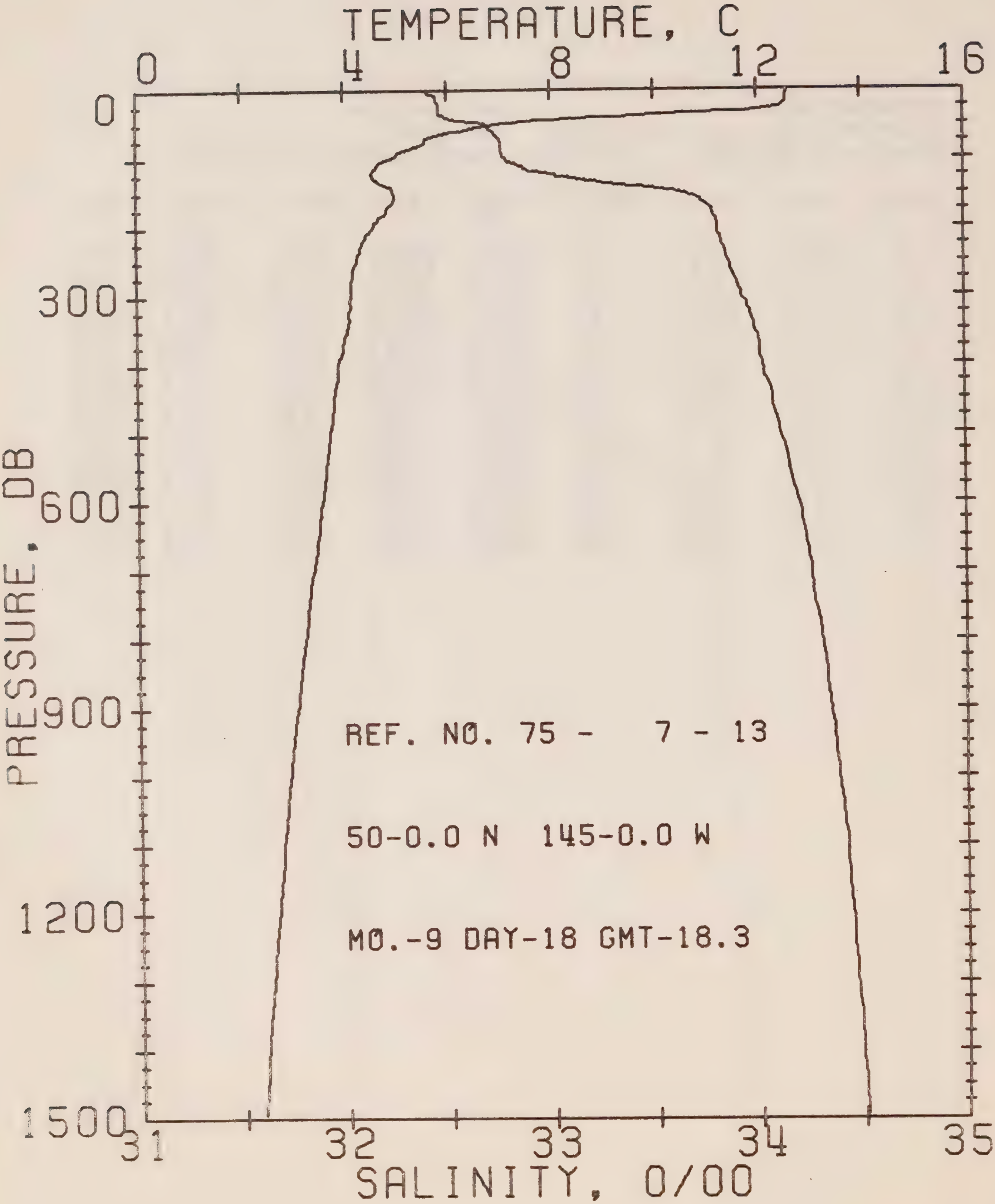
375
PRESSURE, DB
REF. NO. 75 - 7 - 12
50-0.0 N 145-0.0 W
MO.-9 DAY-17 GMT-18.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 12   DATE 17/ 9/75
POSITION 50- 0.0N, 145- 0.0W   GMT 18.3
RESULTS OF STP CAST   162 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.48	32.47	0	24.56	338.7	0.0	0.0	1496.
10	12.46	32.47	10	24.56	338.7	0.34	0.02	1496.
20	12.36	32.48	20	24.59	336.4	0.68	0.07	1496.
30	11.36	32.49	30	24.78	318.2	1.01	0.15	1493.
50	6.28	32.72	50	25.75	226.5	1.51	0.36	1474.
75	5.39	32.76	75	25.88	213.8	2.06	0.71	1471.
100	4.93	32.81	99	25.99	203.8	2.59	1.17	1469.
125	4.97	33.20	124	26.29	175.5	3.06	1.71	1470.
150	4.93	33.66	149	26.65	141.7	3.45	2.26	1471.
175	4.72	33.79	174	26.77	130.2	3.78	2.81	1471.
200	4.47	33.82	199	26.82	125.5	4.10	3.42	1471.
225	4.38	33.83	223	26.84	124.2	4.42	4.10	1471.
250	4.27	33.86	248	26.88	120.8	4.72	4.84	1471.
300	4.07	33.92	298	26.94	114.8	5.31	6.49	1471.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600
900
1200
1500
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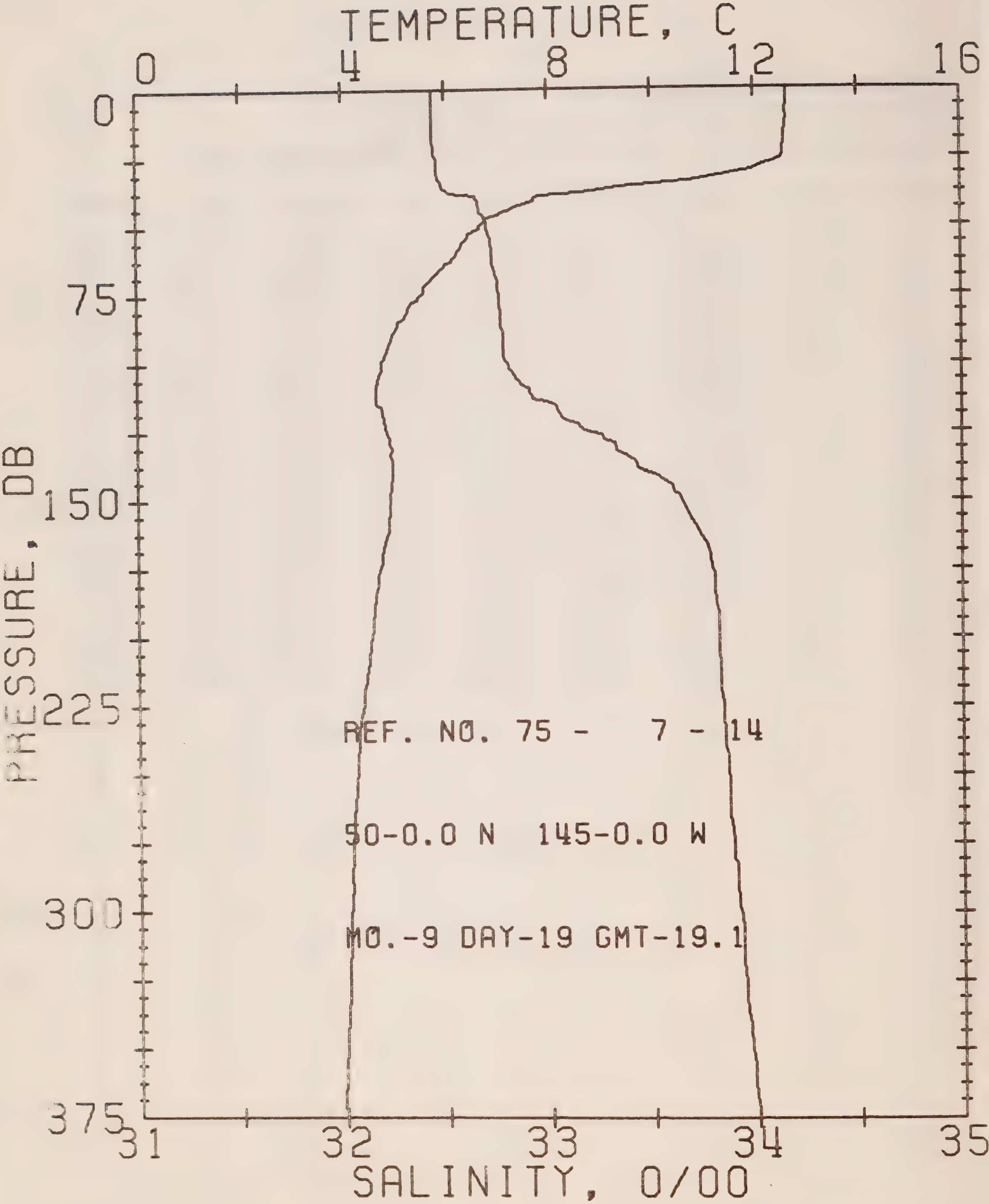
REF. NO. 75 - 7 - 13
50-0.0 N 145-0.0 W
MO.-9 DAY-18 GMT-18.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 13 DATE 18/ 9/75
POSITION 50- 0.0N. 145- 0.0W GMT 18.3
RESULTS OF STP CAST 257 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.59	32.38	0	24.47	347.3	0.0	0.0	1496.
10	12.56	32.45	10	24.53	342.1	0.34	0.02	1496.
20	12.54	32.46	20	24.54	341.1	0.69	0.07	1496.
30	12.10	32.46	30	24.62	333.4	1.02	0.16	1495.
50	7.02	32.68	50	25.62	238.8	1.59	0.38	1477.
75	5.57	32.75	75	25.86	216.2	2.15	0.74	1472.
100	4.92	32.78	99	25.95	207.4	2.68	1.21	1469.
125	4.56	33.03	124	26.19	185.0	3.18	1.78	1469.
150	4.97	33.64	149	26.63	143.9	3.59	2.35	1472.
175	4.83	33.78	174	26.75	132.2	3.93	2.92	1472.
200	4.55	33.81	199	26.81	127.1	4.26	3.54	1471.
225	4.33	33.83	223	26.85	123.5	4.57	4.22	1470.
250	4.23	33.86	248	26.88	120.6	4.87	4.96	1470.
300	4.13	33.92	298	26.94	115.3	5.46	6.60	1471.
400	3.88	34.02	397	27.04	106.0	6.56	10.52	1472.
500	3.72	34.10	496	27.13	98.9	7.59	15.21	1473.
600	3.54	34.19	595	27.21	91.4	8.54	20.52	1474.
800	3.20	34.30	793	27.34	80.6	10.25	32.72	1476.
900	2.89	34.38	990	27.43	72.7	11.78	46.71	1478.
1200	2.66	34.44	1188	27.50	66.8	13.17	62.28	1480.



TEMPERATURE, C
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16
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75
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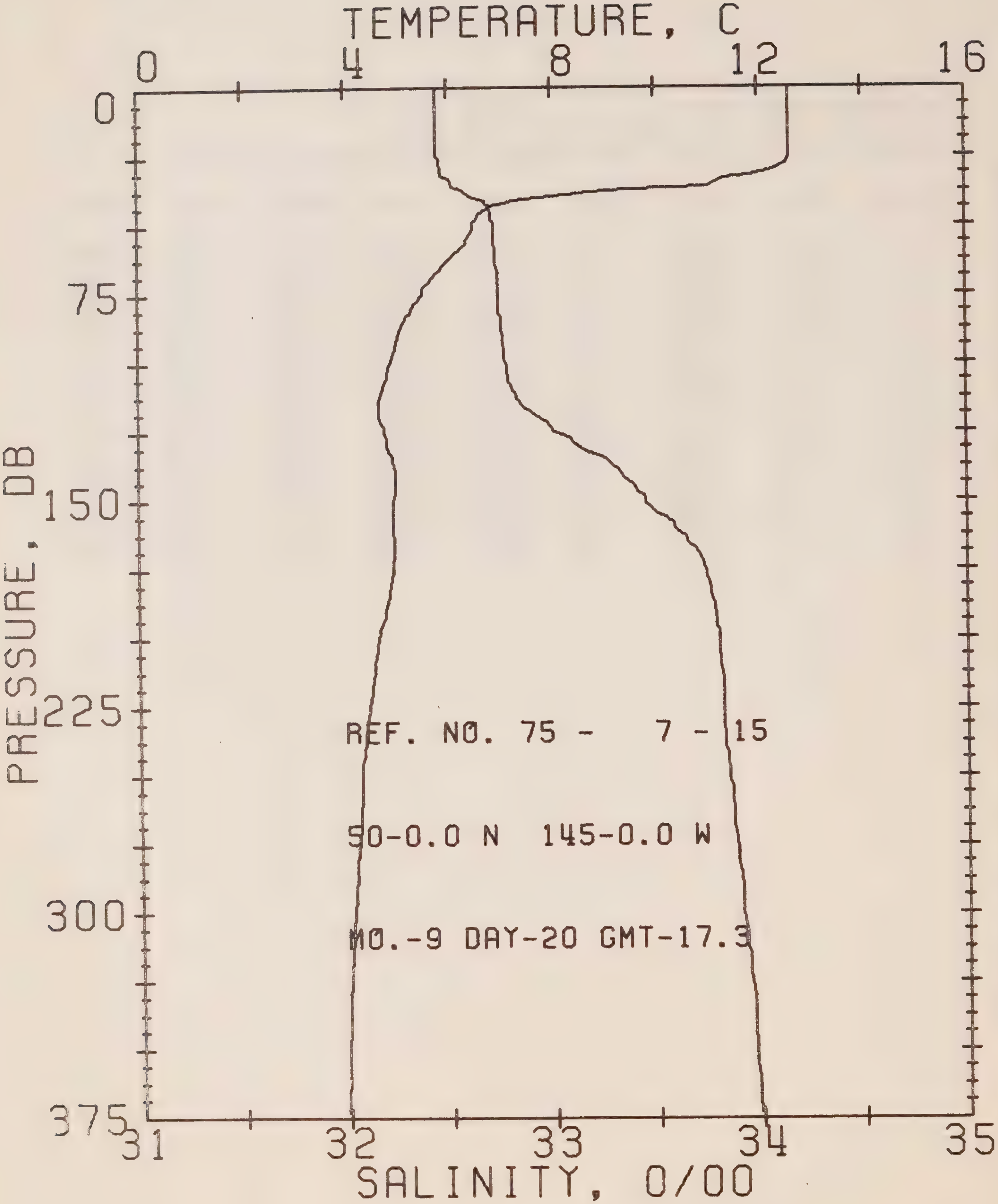
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 14
50-0.0 N 145-0.0 W
MO.-9 DAY-19 GMT-19.1
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 14 DATE 19/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 19.1
RESULTS OF STP CAST 188 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.63	32.44	0	24.51	343.6	0.0	0.0	1496.
10	12.63	32.44	10	24.51	344.0	0.34	0.02	1497.
20	12.58	32.44	20	24.52	343.1	0.69	0.07	1497.
30	11.96	32.46	30	24.65	330.9	1.03	0.16	1495.
50	6.67	32.70	50	25.68	233.1	1.56	0.37	1476.
75	5.51	32.76	75	25.87	215.1	2.12	0.73	1471.
100	4.75	32.80	99	25.99	204.1	2.64	1.19	1469.
125	4.86	33.19	124	26.28	176.3	3.12	1.74	1470.
150	4.90	33.64	149	26.64	142.9	3.52	2.29	1471.
175	4.69	33.79	174	26.78	129.9	3.86	2.85	1471.
200	4.53	33.82	199	26.82	126.2	4.18	3.46	1471.
225	4.35	33.84	223	26.85	123.0	4.49	4.14	1470.
250	4.22	33.86	248	26.88	120.1	4.79	4.87	1470.
300	4.09	33.92	298	26.94	115.2	5.38	6.52	1471.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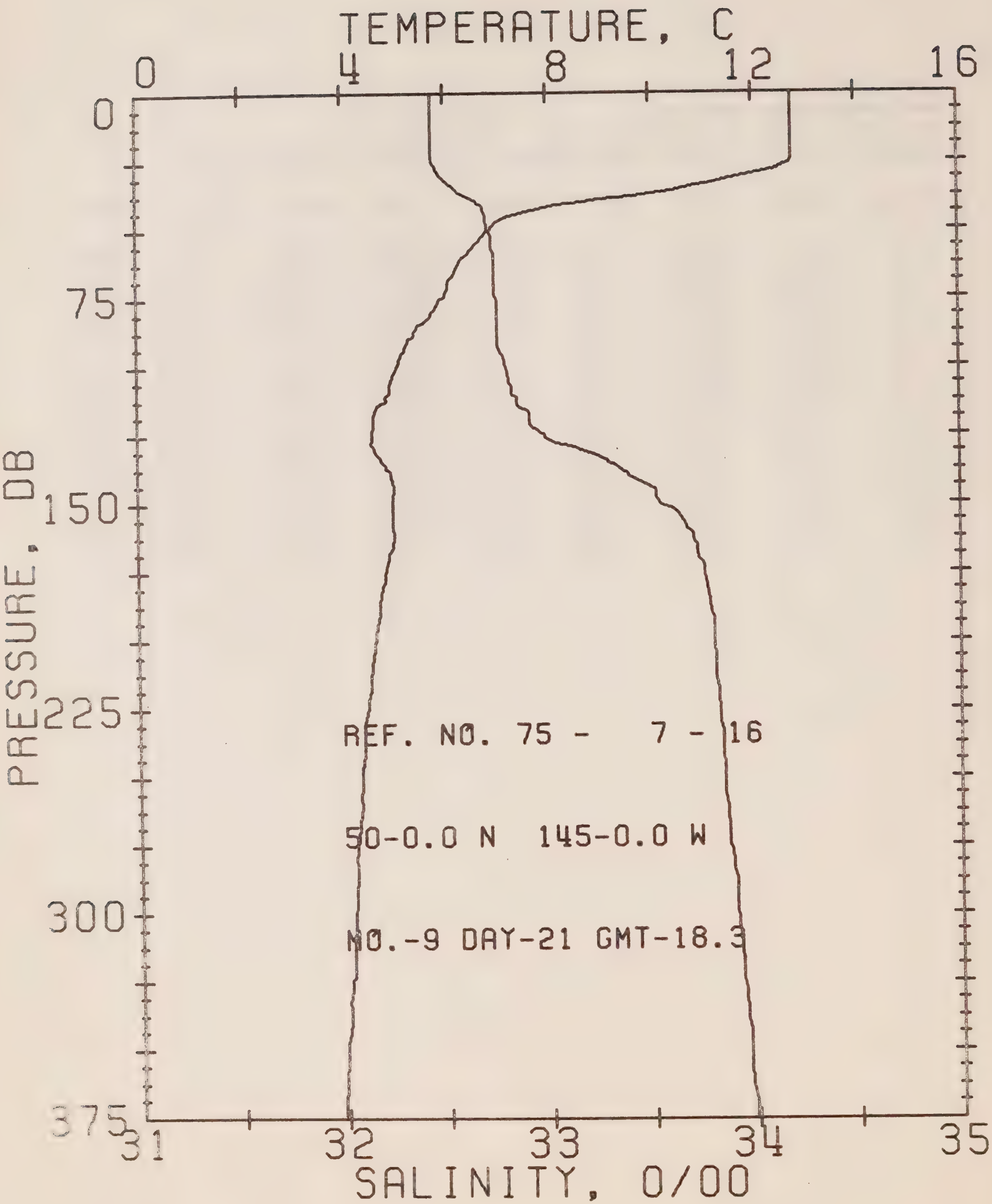
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 15
50-0.0 N 145-0.0 W
MO.-9 DAY-20 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 15   DATE 20/ 9/75
POSITION 50- 0.0N, 145- 0.0W   GMT 17.3
RESULTS OF STP CAST   181 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.61	32.45	0	24.52	342.5	0.0	0.0	1496.
10	12.61	32.45	10	24.52	342.9	0.34	0.02	1497.
20	12.60	32.45	20	24.52	343.0	0.69	0.07	1497.
30	12.33	32.47	30	24.59	336.8	1.03	0.16	1496.
50	6.48	32.72	50	25.72	229.3	1.56	0.37	1475.
75	5.48	32.74	75	25.86	216.2	2.12	0.73	1471.
100	4.85	32.77	99	25.95	207.0	2.65	1.20	1469.
125	4.76	33.01	124	26.15	188.6	3.15	1.77	1469.
150	4.92	33.45	149	26.48	157.6	3.58	2.36	1471.
175	4.90	33.73	174	26.71	136.3	3.94	2.96	1472.
200	4.62	33.80	199	26.79	128.6	4.27	3.60	1471.
225	4.43	33.82	223	26.83	125.3	4.59	4.28	1471.
250	4.27	33.85	248	26.87	121.6	4.90	5.03	1471.
300	4.11	33.91	298	26.93	115.9	5.49	6.59	1471.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16
PRESSURE, DB
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75
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225
300
375
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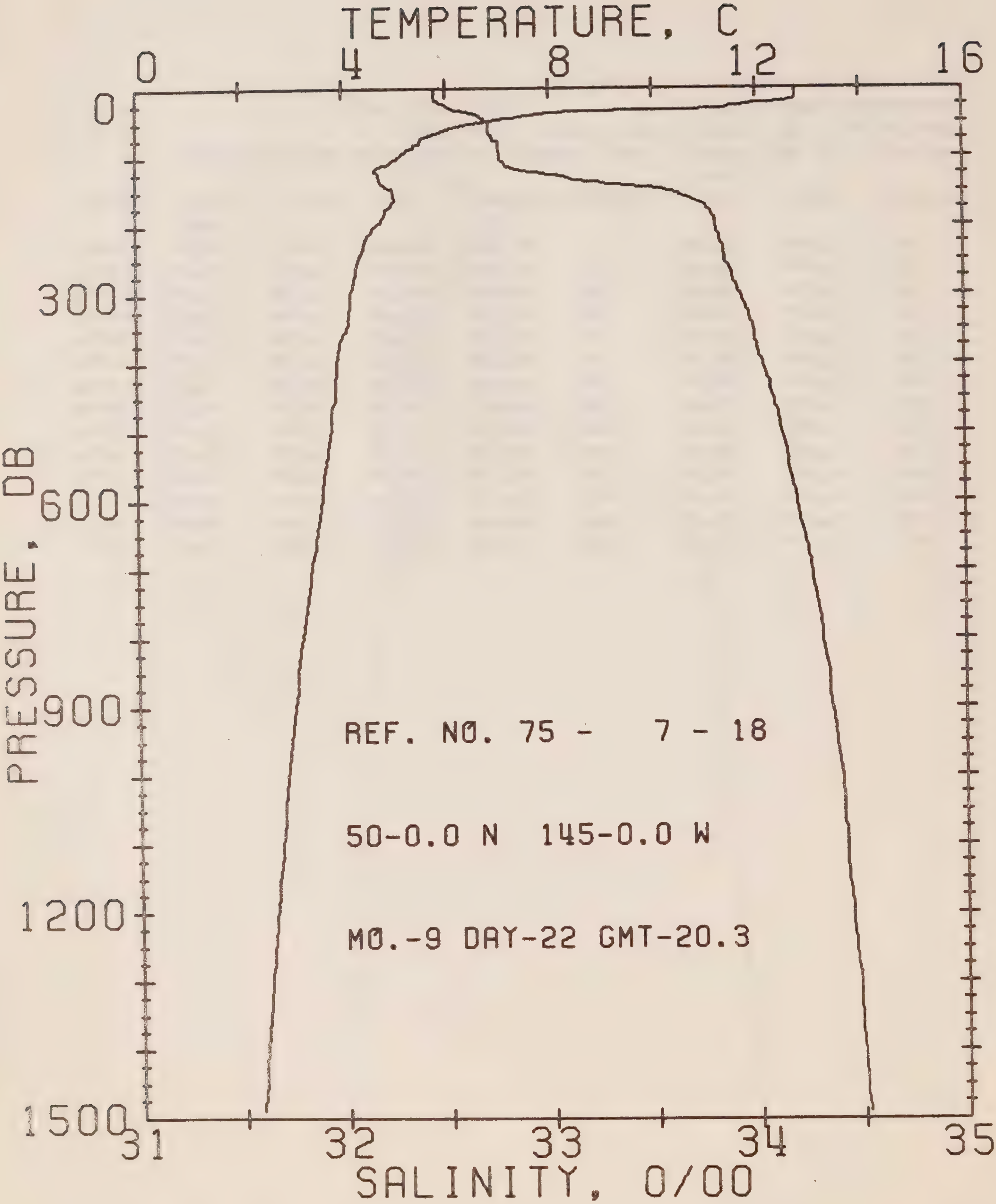
50-0.0 N 145-0.0 W
MO.-9 DAY-21 GMT-18.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 16 DATE 21/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 18.3
RESULTS OF STP CAST 207 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.78	32.44	0	24.48	346.4	0.0	0.0	1497.
10	12.77	32.44	10	24.48	346.6	0.35	0.02	1497.
20	12.76	32.44	20	24.48	346.7	0.69	0.07	1497.
30	11.97	32.48	30	24.66	329.6	1.04	0.16	1495.
50	6.88	32.71	50	25.66	235.1	1.58	0.38	1476.
75	5.92	32.74	75	25.81	221.0	2.15	0.74	1473.
100	5.04	32.79	99	25.95	207.6	2.68	1.21	1470.
125	4.55	32.98	124	26.15	188.7	3.18	1.79	1468.
150	4.95	33.54	149	26.55	151.2	3.60	2.36	1471.
175	4.81	33.75	174	26.73	134.2	3.95	2.94	1471.
200	4.60	33.80	199	26.79	128.5	4.27	3.57	1471.
225	4.44	33.83	223	26.83	124.8	4.59	4.25	1471.
250	4.32	33.85	248	26.86	122.1	4.90	5.00	1471.
300	4.17	33.90	298	26.92	117.0	5.50	6.67	1471.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8
12
16
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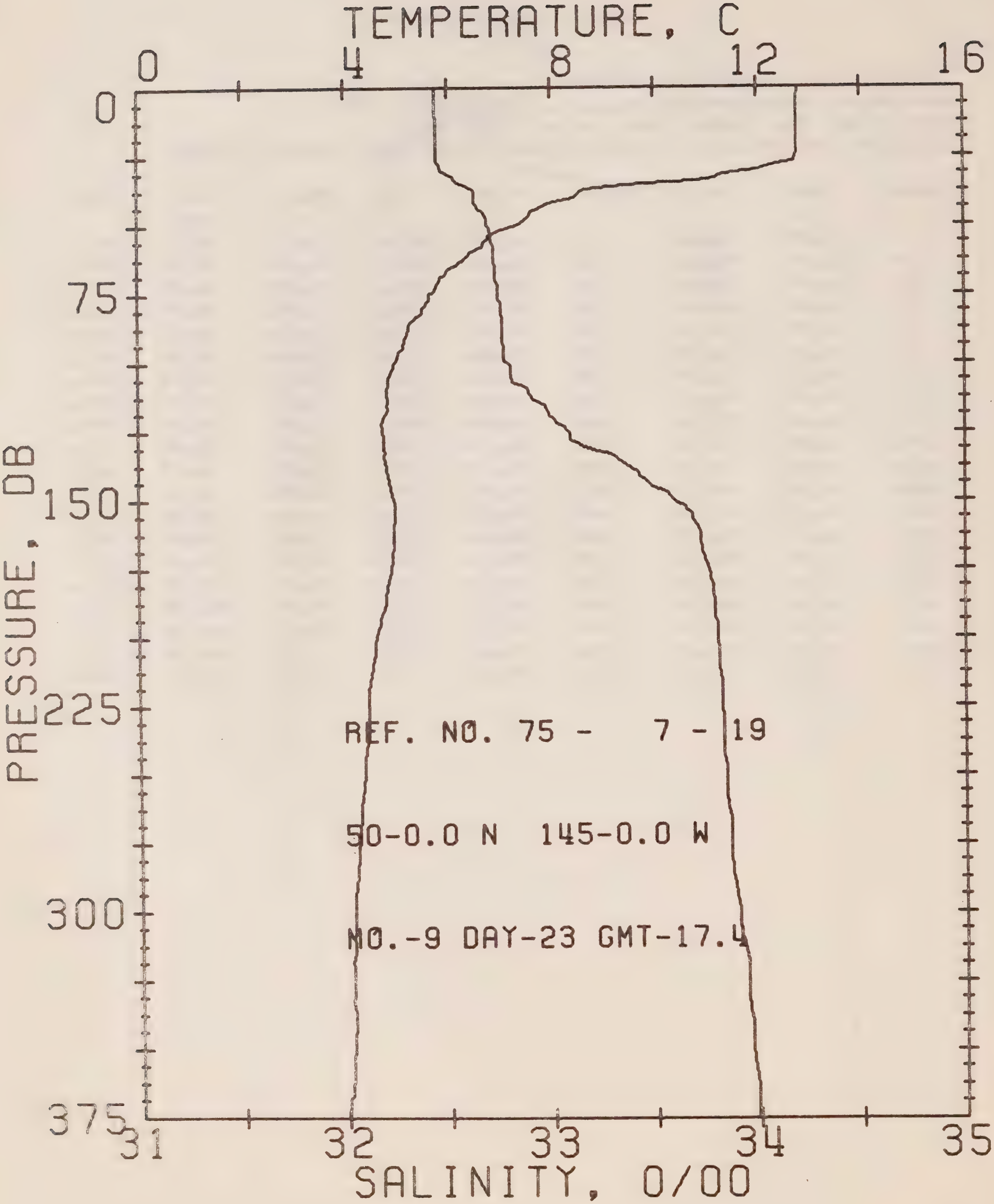
600
900
1200
1500
REF. NO. 75 - 7 - 18
50-0.0 N 145-0.0 W
MO.-9 DAY-22 GMT-20.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 18 DATE 22/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 20.3
RESULTS OF STP CAST 292 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.78	32.45	0	24.49	345.7	0.0	0.0	1497.
10	12.77	32.45	10	24.49	345.9	0.35	0.02	1497.
20	12.54	32.46	20	24.54	341.1	0.69	0.07	1496.
30	11.40	32.53	30	24.81	316.0	1.02	0.15	1493.
50	6.72	32.71	50	25.68	233.0	1.53	0.36	1476.
75	5.51	32.73	75	25.84	217.3	2.09	0.72	1471.
100	5.09	32.76	99	25.92	210.7	2.62	1.19	1470.
125	4.68	33.01	124	26.16	187.8	3.13	1.77	1469.
150	4.99	33.59	149	26.58	147.9	3.56	2.37	1472.
175	4.86	33.76	174	26.73	133.9	3.91	2.95	1472.
200	4.65	33.80	199	26.79	128.9	4.24	3.57	1471.
225	4.41	33.83	223	26.84	124.4	4.55	4.26	1471.
250	4.30	33.85	248	26.87	121.9	4.86	5.00	1471.
300	4.13	33.92	298	26.94	115.3	5.45	6.67	1471.
400	3.87	34.03	397	27.05	105.4	6.56	10.60	1472.
500	3.74	34.12	496	27.13	98.2	7.57	15.25	1473.
600	3.56	34.19	595	27.21	91.5	8.52	20.56	1474.
800	3.17	34.31	793	27.34	79.8	10.23	32.72	1475.
1000	2.87	34.40	990	27.44	71.5	11.74	46.56	1478.
1200	2.63	34.45	1188	27.50	66.1	13.12	62.00	1480.


TEMPERATURE, C
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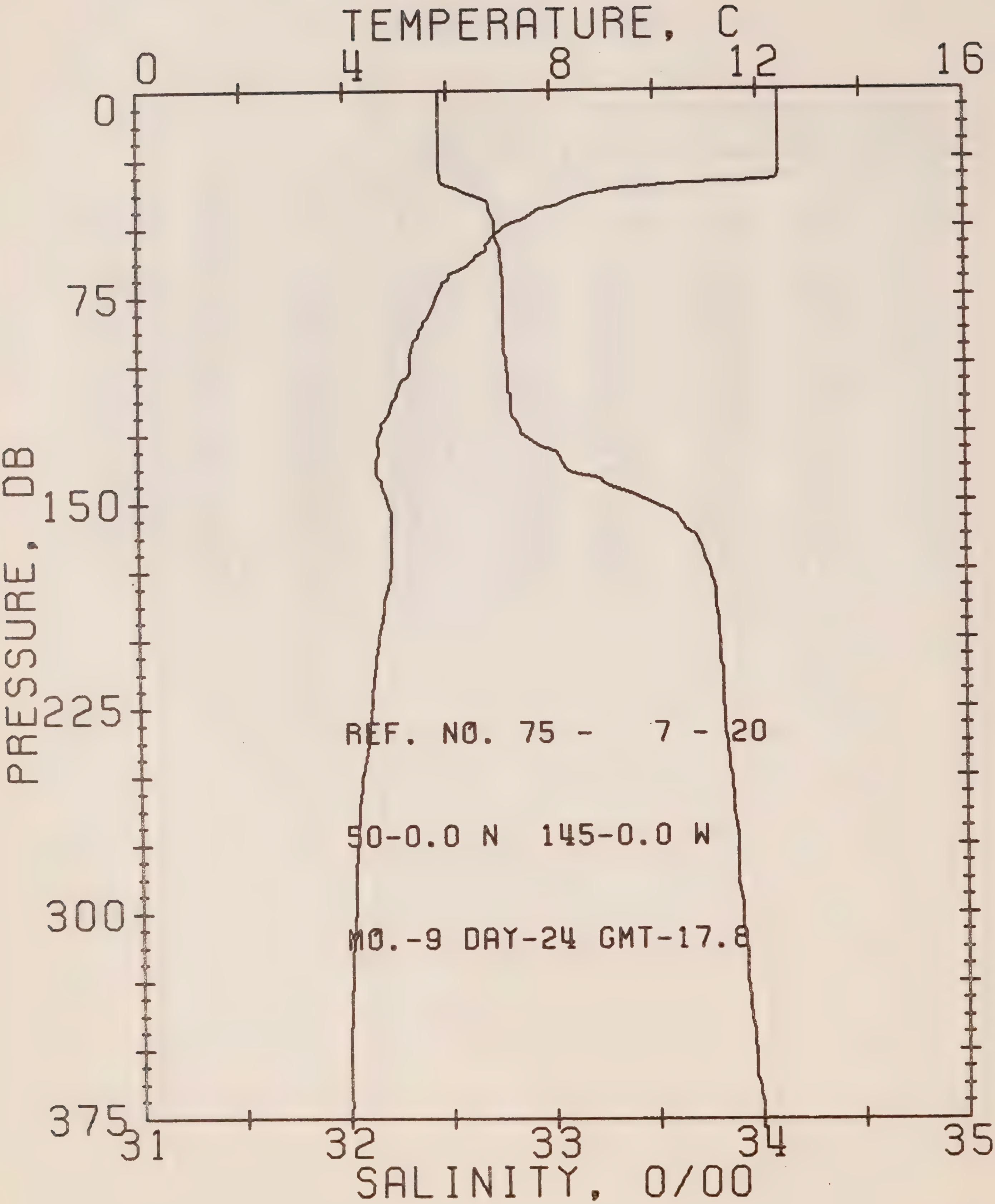
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 19
50-0.0 N 145-0.0 W
MO.-9 DAY-23 GMT-17.4
31
32
33
34
35
SALINITY, 0/00

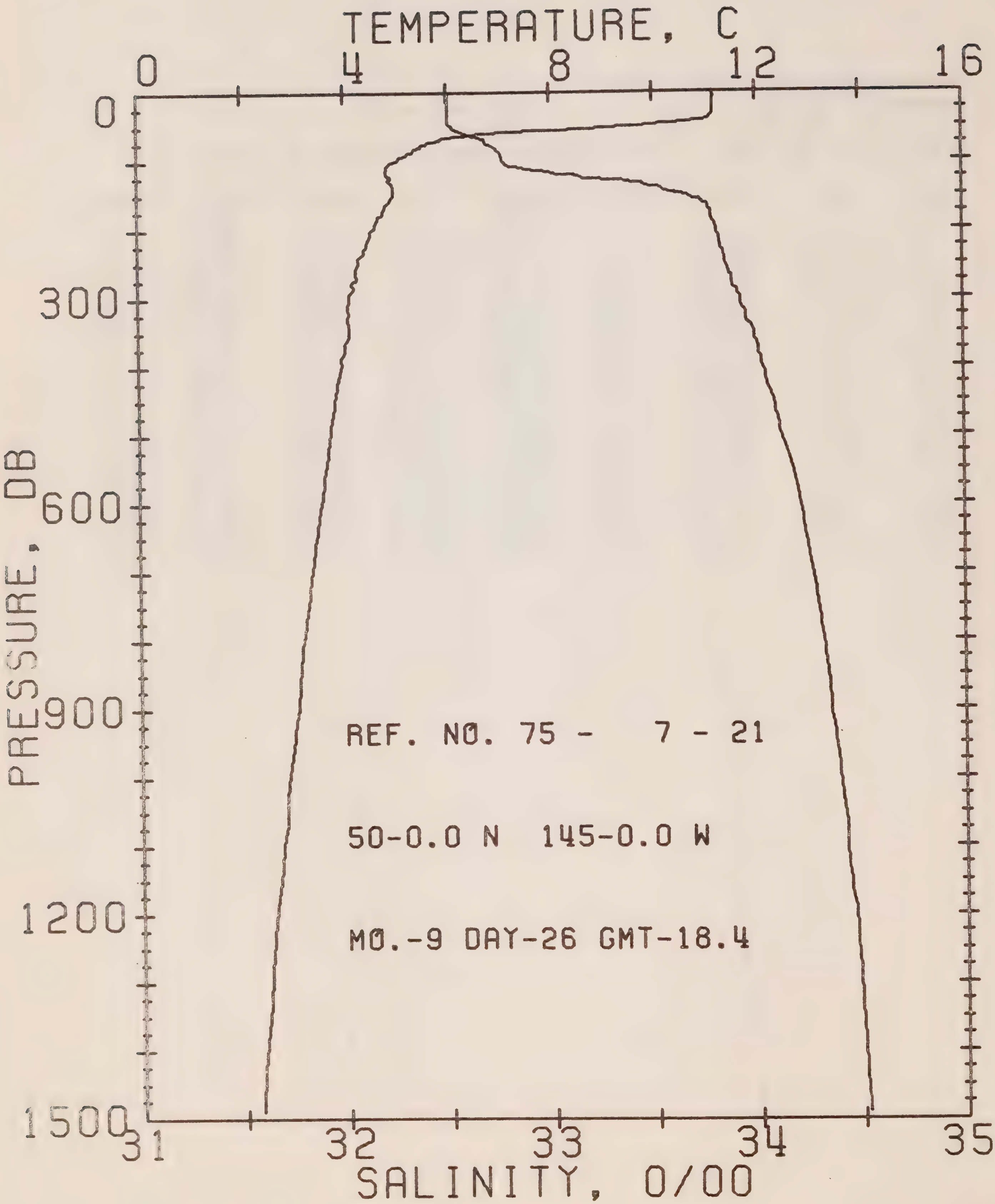
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 19   DATE 23/ 9/75
POSITION 50- 0.0N, 145- 0.0W   GMT 17.4
RESULTS OF STP CAST   209 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.79	32.44	0	24.48	346.6	0.0	0.0	1497.
10	12.78	32.44	10	24.48	346.6	0.35	0.02	1497.
20	12.77	32.45	20	24.49	346.2	0.69	0.07	1497.
30	12.03	32.47	30	24.64	331.4	1.04	0.16	1495.
50	7.33	32.69	50	25.58	242.4	1.58	0.38	1478.
75	5.64	32.74	75	25.84	218.1	2.14	0.74	1472.
100	4.94	32.79	99	25.96	206.9	2.68	1.21	1469.
125	4.73	33.08	124	26.21	183.1	3.17	1.77	1469.
150	4.94	33.59	149	26.59	147.0	3.58	2.34	1471.
175	4.88	33.75	174	26.73	134.6	3.92	2.92	1472.
200	4.60	33.80	199	26.79	128.4	4.25	3.54	1471.
225	4.42	33.82	223	26.83	125.2	4.57	4.23	1471.
250	4.34	33.84	248	26.85	123.0	4.88	4.98	1471.
300	4.13	33.90	298	26.92	116.8	5.48	6.66	1471.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 20
50-0.0 N 145-0.0 W
MO.-9 DAY-24 GMT-17.8
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 20 DATE 24/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.8
RESULTS OF STP CAST 174 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.43	32.46	0	24.56	338.5	0.0	0.0	1496.
10	12.43	32.46	10	24.56	338.9	0.34	0.02	1496.
20	12.43	32.46	20	24.56	339.1	0.68	0.07	1496.
30	12.43	32.46	30	24.56	339.4	1.02	0.16	1496.
50	7.06	32.73	50	25.65	235.8	1.56	0.37	1477.
75	5.76	32.77	75	25.85	217.2	2.13	0.73	1472.
100	5.26	32.78	99	25.91	211.1	2.66	1.21	1471.
125	4.63	32.85	124	26.04	199.3	3.18	1.80	1469.
150	4.82	33.47	149	26.51	155.1	3.62	2.42	1471.
175	4.86	33.76	174	26.73	133.9	3.98	3.01	1472.
200	4.61	33.81	199	26.80	128.0	4.30	3.63	1471.
225	4.47	33.82	223	26.83	125.3	4.62	4.32	1471.
250	4.28	33.86	248	26.88	120.9	4.93	5.06	1471.
300	4.12	33.91	298	26.93	116.0	5.52	6.72	1471.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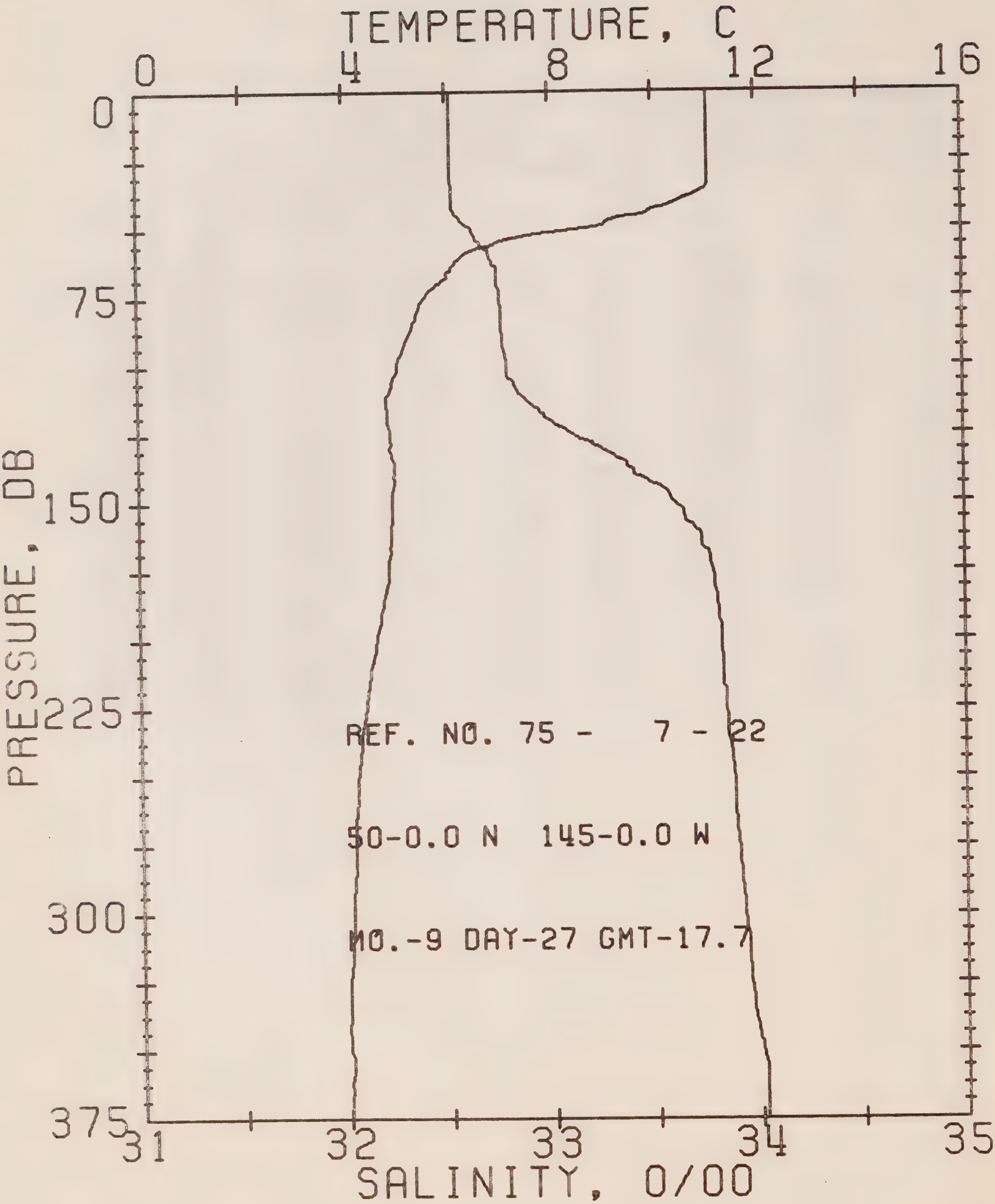
8
12
16
PRESSURE, DB
0
300
600
900
1200
1500
REF. NO. 75 - 7 - 21
50-0.0 N 145-0.0 W
MO.-9 DAY-26 GMT-18.4
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 21 DATE 26/ 9/75
POSITION 50- 0.0N. 145- 0.0W GMT 18.4
RESULTS OF STP CAST 259 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.18	32.51	0	24.83	312.9	0.0	0.0	1491.
10	11.18	32.51	10	24.83	313.3	0.31	0.02	1492.
20	11.16	32.51	20	24.83	313.1	0.63	0.06	1492.
30	11.16	32.51	30	24.83	313.3	0.94	0.14	1492.
50	9.73	32.52	50	25.09	289.7	1.56	0.39	1487.
75	5.59	32.70	75	25.81	220.5	2.17	0.78	1472.
100	5.01	32.77	99	25.93	209.0	2.70	1.26	1470.
125	4.92	33.17	124	26.26	178.3	3.19	1.82	1470.
150	4.95	33.67	149	26.65	141.5	3.58	2.36	1471.
175	4.74	33.78	174	26.76	131.2	3.92	2.92	1471.
200	4.53	33.81	199	26.81	126.9	4.25	3.54	1471.
225	4.41	33.83	223	26.84	124.4	4.56	4.22	1471.
250	4.27	33.85	248	26.87	121.6	4.87	4.96	1471.
300	4.09	33.92	298	26.94	114.9	5.46	6.62	1471.
400	3.92	34.02	397	27.04	106.1	6.56	10.55	1472.
500	3.69	34.11	496	27.14	97.8	7.58	15.20	1473.
600	3.52	34.20	595	27.23	90.2	8.51	20.44	1474.
800	3.15	34.31	793	27.35	79.4	10.20	32.47	1475.
1000	2.85	34.39	990	27.44	71.7	11.72	46.31	1478.
1200	2.58	34.46	1188	27.52	64.7	13.09	61.64	1480.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16
PRESSURE, DB
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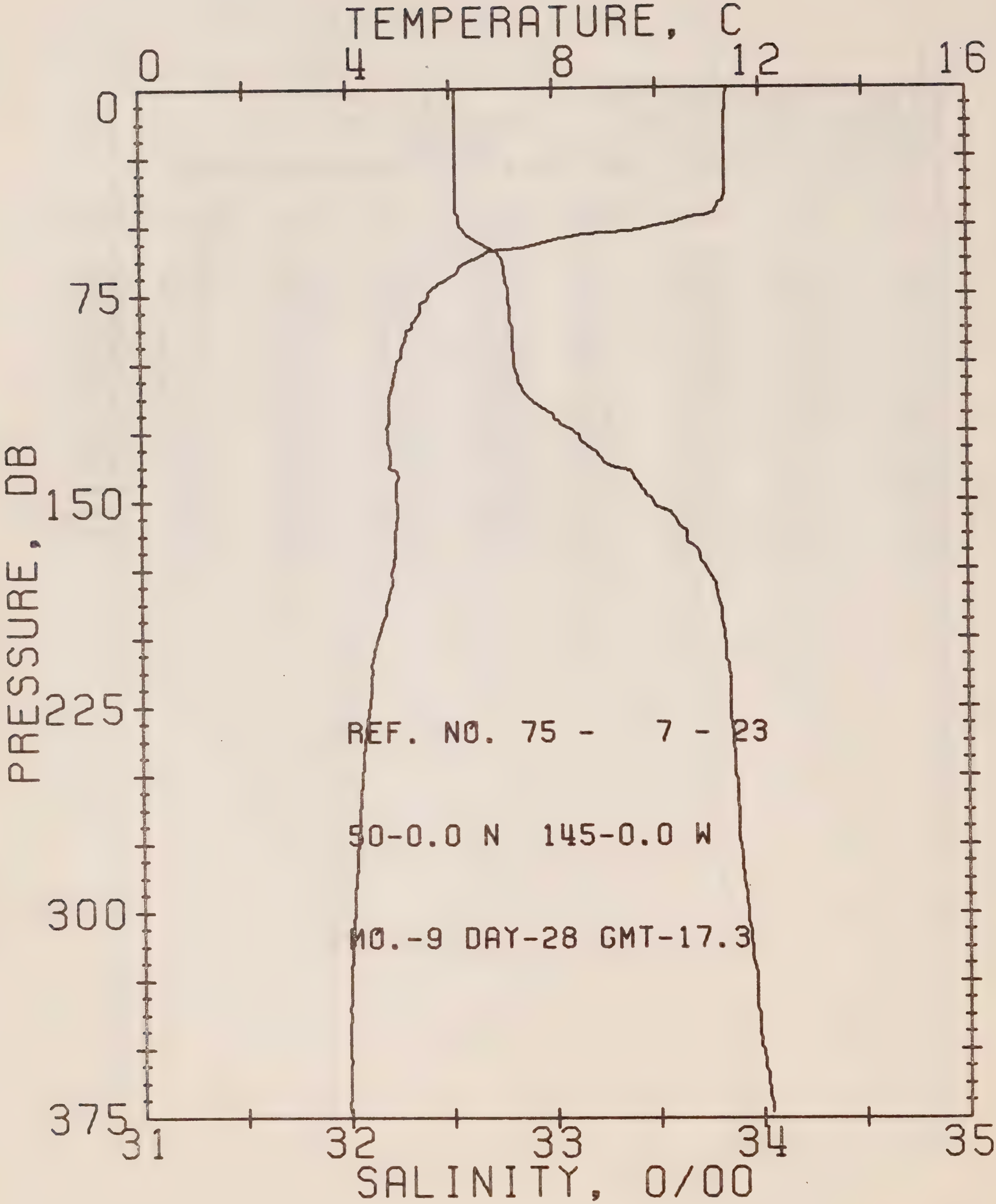
75
150
225
300
375
REF. NO. 75 - 7 - 22
50-0.0 N 145-0.0 W
MO.-9 DAY-27 GMT-17.7
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 22 DATE 27/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.7
RESULTS OF STP CAST 187 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.09	32.52	0	24.85	310.6	0.0	0.0	1491.
10	11.08	32.52	10	24.86	310.8	0.31	0.02	1491.
20	11.08	32.52	20	24.86	311.0	0.62	0.06	1491.
30	11.08	32.52	30	24.86	311.2	0.93	0.14	1492.
50	8.68	32.62	50	25.33	266.3	1.53	0.38	1483.
75	5.55	32.75	75	25.86	216.3	2.10	0.75	1472.
100	5.00	32.79	99	25.95	207.5	2.63	1.22	1470.
125	4.88	33.11	124	26.22	182.4	3.13	1.79	1470.
150	4.90	33.59	149	26.60	146.6	3.53	2.35	1471.
175	4.84	33.78	174	26.75	132.2	3.88	2.92	1472.
200	4.58	33.82	199	26.81	126.7	4.20	3.54	1471.
225	4.35	33.84	223	26.85	122.8	4.51	4.22	1470.
250	4.21	33.88	248	26.90	118.9	4.82	4.95	1470.
300	4.08	33.92	298	26.95	114.6	5.40	6.58	1471.



TEMPERATURE, C
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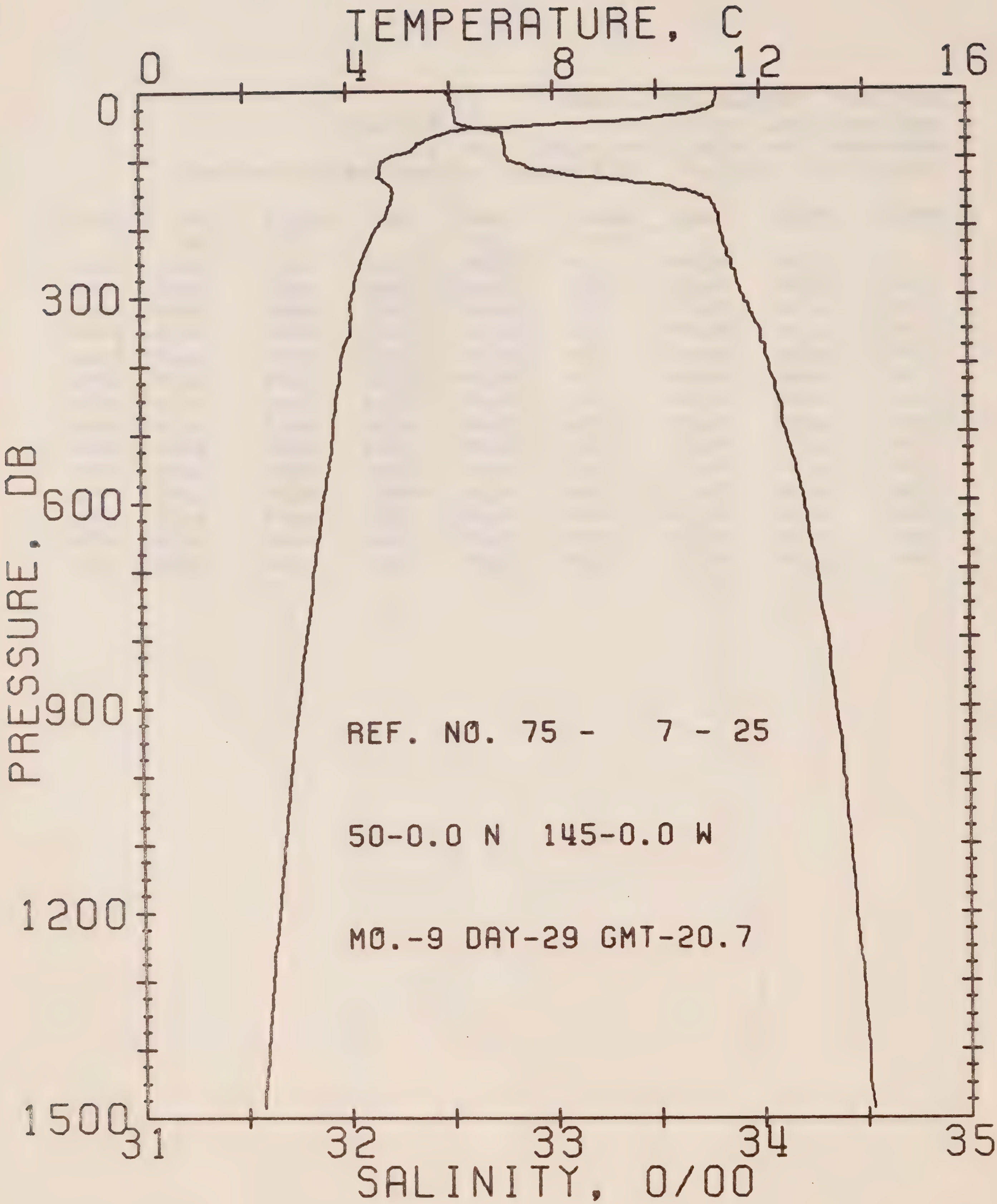
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 23
50-0.0 N 145-0.0 W
MO.-9 DAY-28 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 23 DATE 28/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 198 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.38	32.53	0	24.81	314.8	0.0	0.0	1492.
10	11.34	32.53	10	24.82	314.5	0.31	0.02	1492.
20	11.34	32.53	20	24.82	314.7	0.63	0.06	1492.
30	11.34	32.53	30	24.82	314.9	0.94	0.14	1493.
50	9.99	32.55	50	25.07	291.5	1.57	0.40	1488.
75	5.56	32.78	75	25.88	214.2	2.16	0.77	1472.
100	4.95	32.81	99	25.97	205.4	2.68	1.24	1470.
125	4.77	33.10	124	26.22	182.0	3.17	1.80	1470.
150	4.94	33.47	149	26.50	156.0	3.59	2.39	1471.
175	4.85	33.73	174	26.71	135.7	3.96	2.99	1472.
200	4.55	33.82	199	26.82	126.1	4.28	3.61	1471.
225	4.39	33.85	223	26.86	122.7	4.59	4.28	1471.
250	4.24	33.87	248	26.89	119.8	4.89	5.01	1470.
300	4.07	33.93	298	26.95	113.9	5.48	6.65	1471.



TEMPERATURE, C
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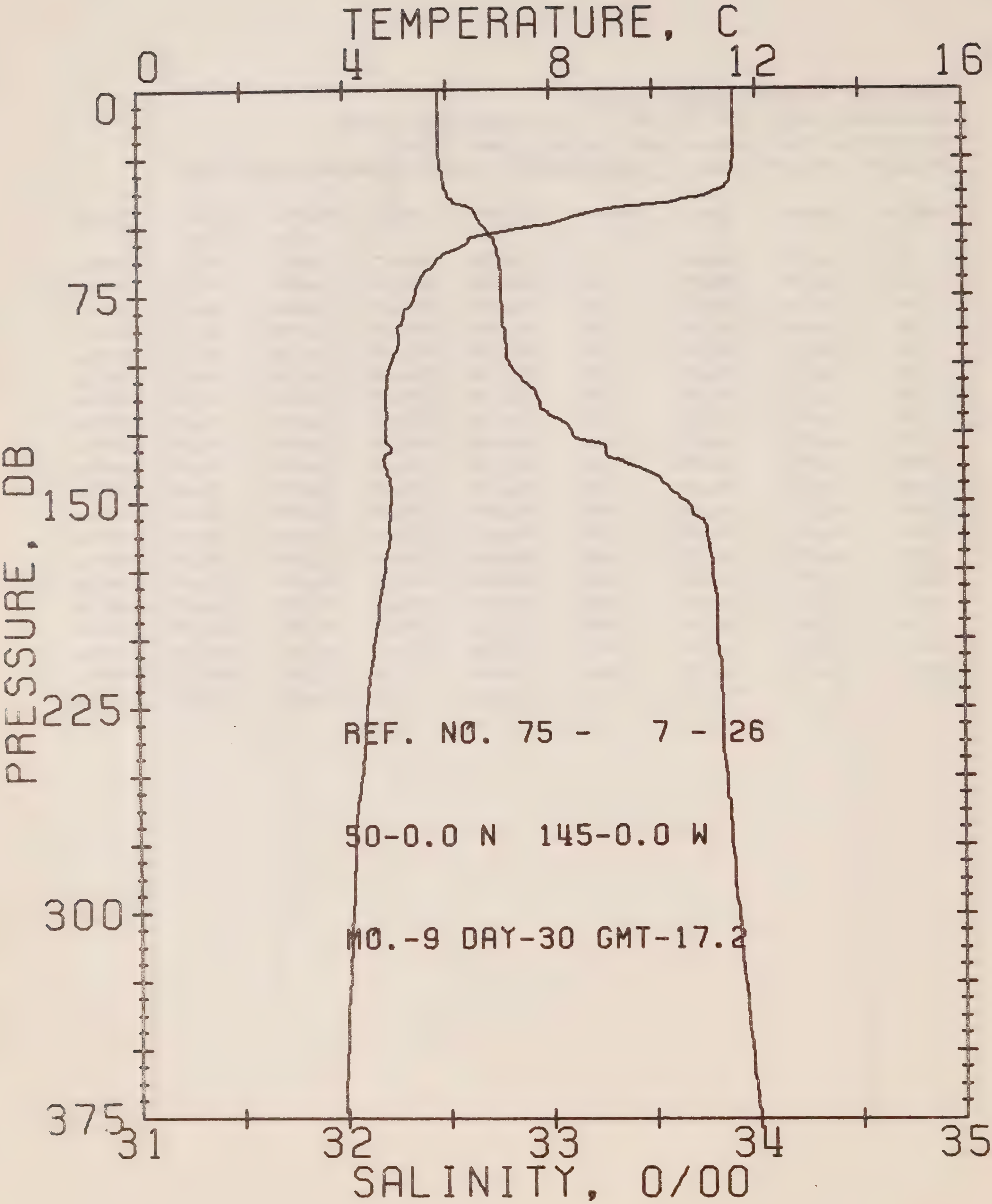
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 7 - 25
50-0.0 N 145-0.0 W
MO.-9 DAY-29 GMT-20.7
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 25 DATE 29/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 20.7
RESULTS OF STP CAST 253 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.16	32.48	0	24.81	314.7	0.0	0.0	1491.
10	11.15	32.51	10	24.84	312.7	0.31	0.02	1492.
20	11.13	32.51	20	24.84	312.6	0.63	0.06	1492.
30	10.99	32.52	30	24.87	309.7	0.94	0.14	1491.
50	8.06	32.56	50	25.38	261.9	1.52	0.38	1481.
75	5.41	32.76	75	25.88	214.0	2.09	0.74	1471.
100	4.77	32.78	99	25.97	205.7	2.61	1.21	1469.
125	4.60	33.12	124	26.26	178.7	3.10	1.77	1469.
150	4.89	33.67	149	26.66	140.8	3.49	2.31	1471.
175	4.77	33.78	174	26.76	131.3	3.83	2.87	1471.
200	4.56	33.80	199	26.80	127.7	4.15	3.49	1471.
225	4.41	33.82	223	26.83	124.8	4.47	4.17	1471.
250	4.26	33.86	248	26.88	120.8	4.78	4.91	1471.
300	4.09	33.91	298	26.94	115.4	5.37	6.57	1471.
400	3.86	34.04	397	27.06	104.5	6.46	10.47	1472.
500	3.70	34.12	496	27.14	97.6	7.47	15.09	1473.
600	3.51	34.21	595	27.23	89.7	8.41	20.33	1474.
800	3.17	34.32	793	27.35	79.1	10.10	32.35	1476.
1000	2.86	34.39	990	27.44	71.9	11.61	46.16	1478.
1200	2.61	34.45	1188	27.51	65.9	12.98	61.52	1480.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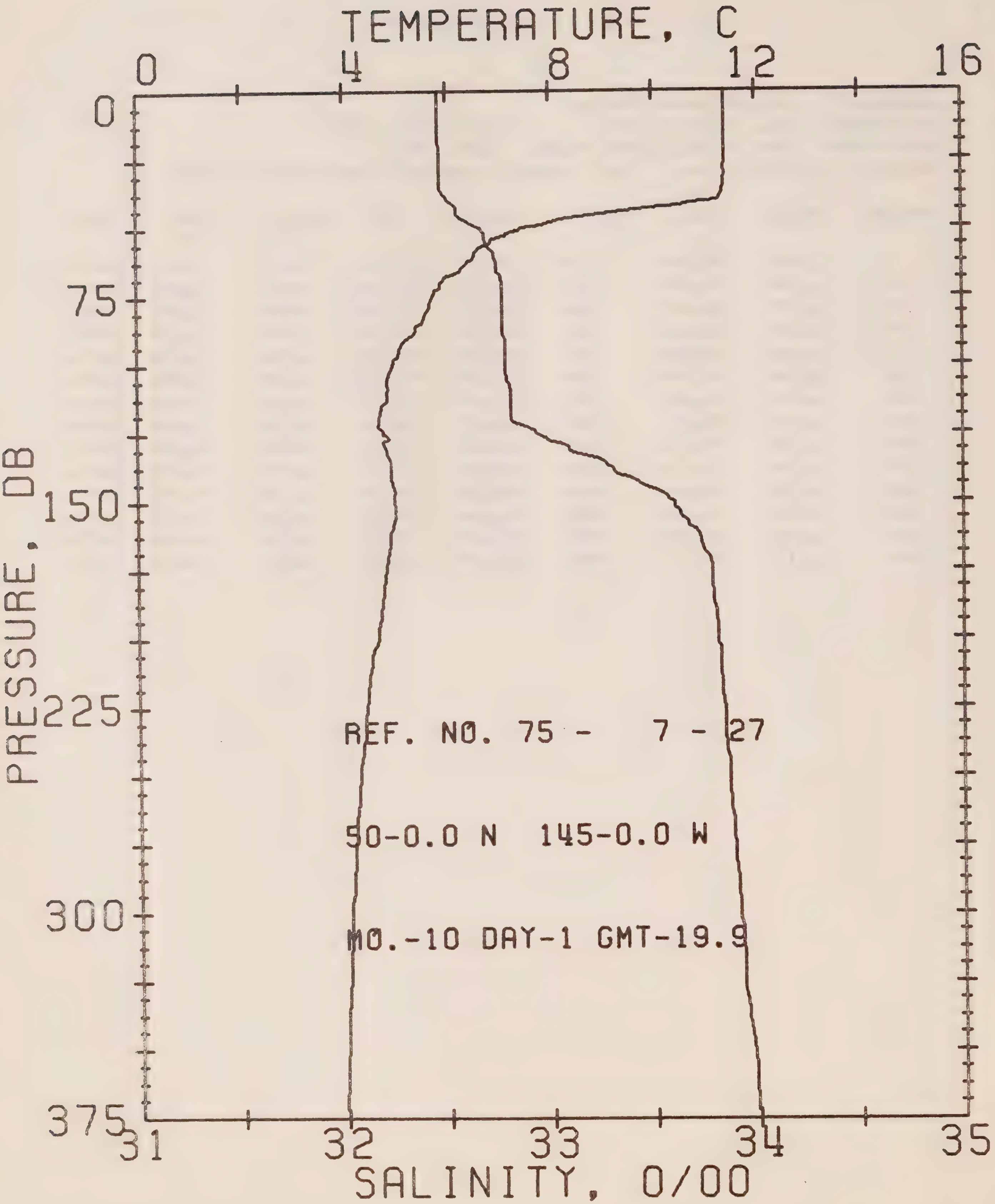
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 26
50-0.0 N 145-0.0 W
MO.-9 DAY-30 GMT-17.2
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 26 DATE 30/ 9/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.2
RESULTS OF STP CAST 184 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.58	32.46	0	24.72	323.4	0.0	0.0	1493.
10	11.58	32.46	10	24.72	323.8	0.32	0.02	1493.
20	11.57	32.46	20	24.72	323.9	0.65	0.07	1493.
30	11.51	32.48	30	24.75	321.5	0.97	0.15	1493.
50	7.58	32.68	50	25.54	246.5	1.56	0.39	1479.
75	5.36	32.76	75	25.89	213.4	2.11	0.74	1471.
100	4.87	32.80	99	25.97	205.3	2.64	1.20	1469.
125	4.81	33.10	124	26.22	182.4	3.12	1.76	1470.
150	4.90	33.65	149	26.65	141.7	3.52	2.32	1471.
175	4.76	33.78	174	26.76	131.4	3.86	2.88	1471.
200	4.56	33.80	199	26.80	127.9	4.18	3.49	1471.
225	4.41	33.83	223	26.84	124.4	4.50	4.17	1471.
250	4.29	33.85	248	26.86	122.0	4.81	4.92	1471.
300	4.10	33.90	298	26.93	116.4	5.40	6.59	1471.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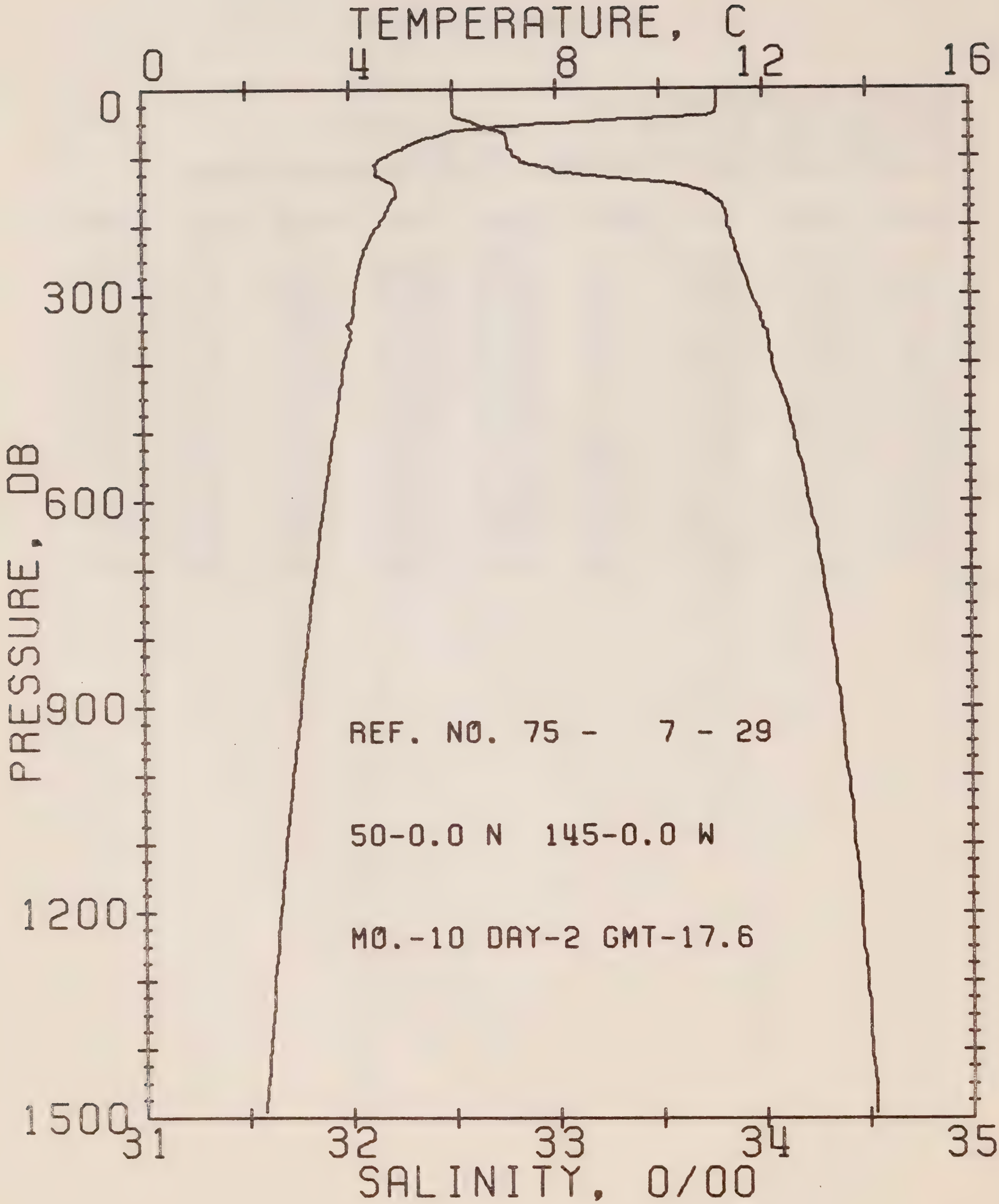
4
8
12
16
PRESSURE, DB
0
75
150
225
300
375
REF. NO. 75 - 7 - 27
50-0.0 N 145-0.0 W
MO.-10 DAY-1 GMT-19.9
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 27 DATE 1/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 19.9
RESULTS OF STP CAST 177 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.41	32.46	0	24.75	320.5	0.0	0.0	1492.
10	11.42	32.46	10	24.75	321.0	0.32	0.02	1492.
20	11.40	32.46	20	24.76	320.6	0.64	0.07	1493.
30	11.40	32.47	30	24.76	320.4	0.96	0.15	1493.
50	7.45	32.66	50	25.54	246.2	1.56	0.39	1479.
75	5.71	32.77	75	25.85	216.6	2.13	0.75	1472.
100	4.93	32.78	99	25.95	207.5	2.66	1.22	1469.
125	4.75	32.93	124	26.09	194.6	3.17	1.80	1469.
150	4.97	33.60	149	26.59	146.9	3.59	2.40	1471.
175	4.79	33.78	174	26.76	131.8	3.94	2.97	1471.
200	4.62	33.81	199	26.80	127.9	4.26	3.59	1471.
225	4.39	33.84	223	26.85	123.6	4.58	4.27	1471.
250	4.27	33.86	248	26.88	120.8	4.88	5.01	1471.
300	4.09	33.91	298	26.94	115.6	5.47	6.66	1471.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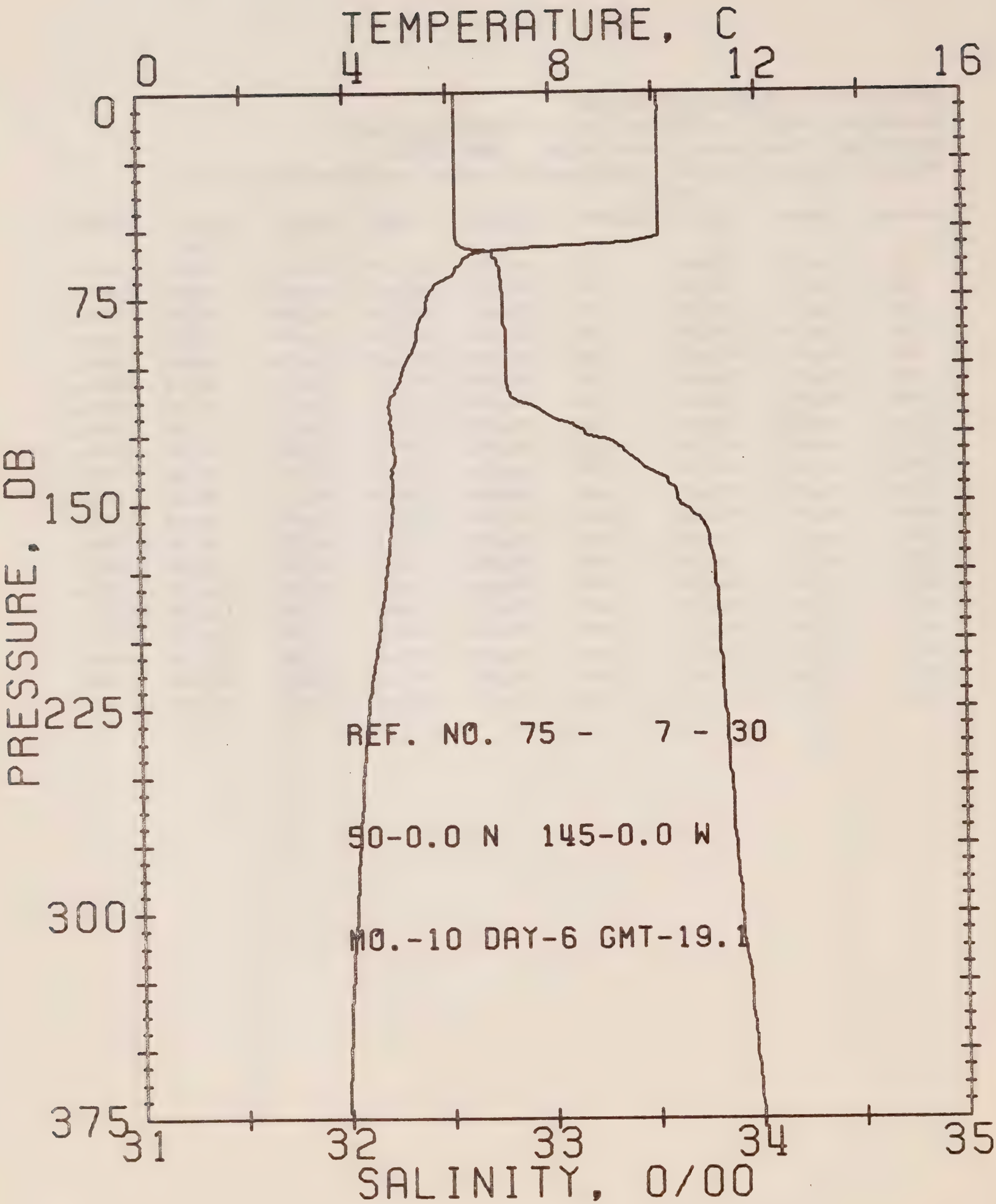
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 7 - 29
50-0.0 N 145-0.0 W
MO.-10 DAY-2 GMT-17.6
31
32
33
34
35
SALINITY, 0/00

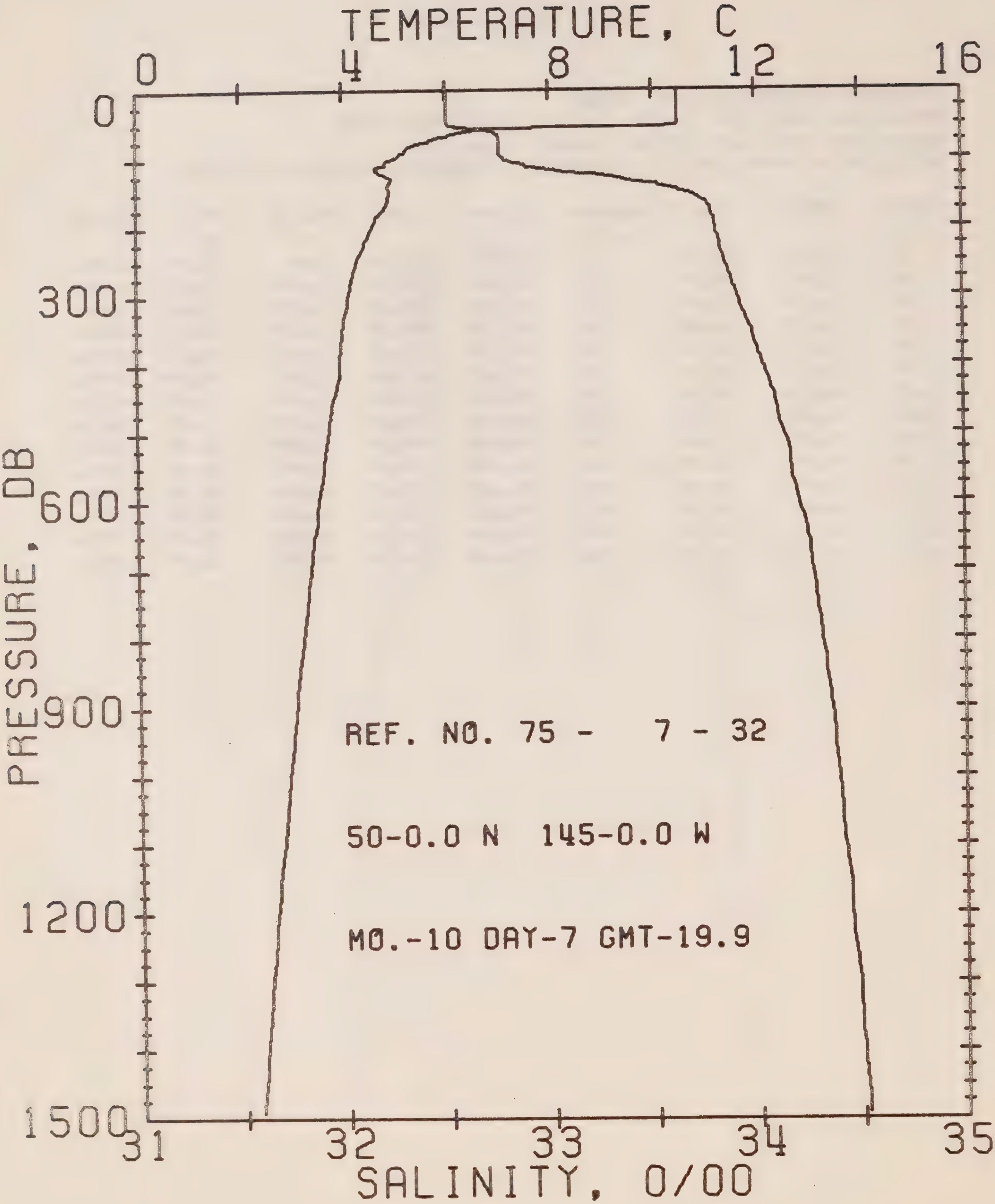
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 29 DATE 2/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.6
RESULTS OF STP CAST 271 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.13	32.50	0	24.83	312.7	0.0	0.0	1491.
10	11.12	32.50	10	24.83	313.0	0.31	0.02	1491.
20	11.12	32.50	20	24.83	313.2	0.63	0.06	1492.
30	11.10	32.50	30	24.84	313.1	0.94	0.14	1492.
50	8.05	32.60	50	25.41	258.8	1.54	0.38	1481.
75	5.33	32.76	75	25.89	213.1	2.10	0.74	1471.
100	4.65	32.81	99	26.01	201.9	2.62	1.21	1468.
125	4.54	33.16	124	26.29	175.1	3.11	1.76	1469.
150	4.91	33.72	149	26.70	137.3	3.49	2.29	1471.
175	4.75	33.81	174	26.79	128.8	3.82	2.84	1471.
200	4.55	33.83	199	26.82	125.6	4.14	3.45	1471.
225	4.34	33.86	223	26.87	121.4	4.45	4.12	1470.
250	4.21	33.88	248	26.90	118.4	4.75	4.84	1470.
300	4.08	33.94	298	26.96	113.1	5.32	6.46	1471.
400	3.87	34.04	397	27.06	104.5	6.40	10.31	1472.
500	3.68	34.14	496	27.16	95.4	7.40	14.88	1473.
600	3.48	34.21	595	27.24	88.9	8.32	20.02	1473.
800	3.15	34.33	793	27.36	78.2	9.98	31.34	1475.
1000	2.86	34.40	990	27.44	71.1	11.47	45.49	1478.
1200	2.61	34.46	1188	27.51	65.2	12.83	60.66	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 30
50-0.0 N 145-0.0 W
MO.-10 DAY-6 GMT-19.1
31
32
33
34
35
SALINITY, 0/00

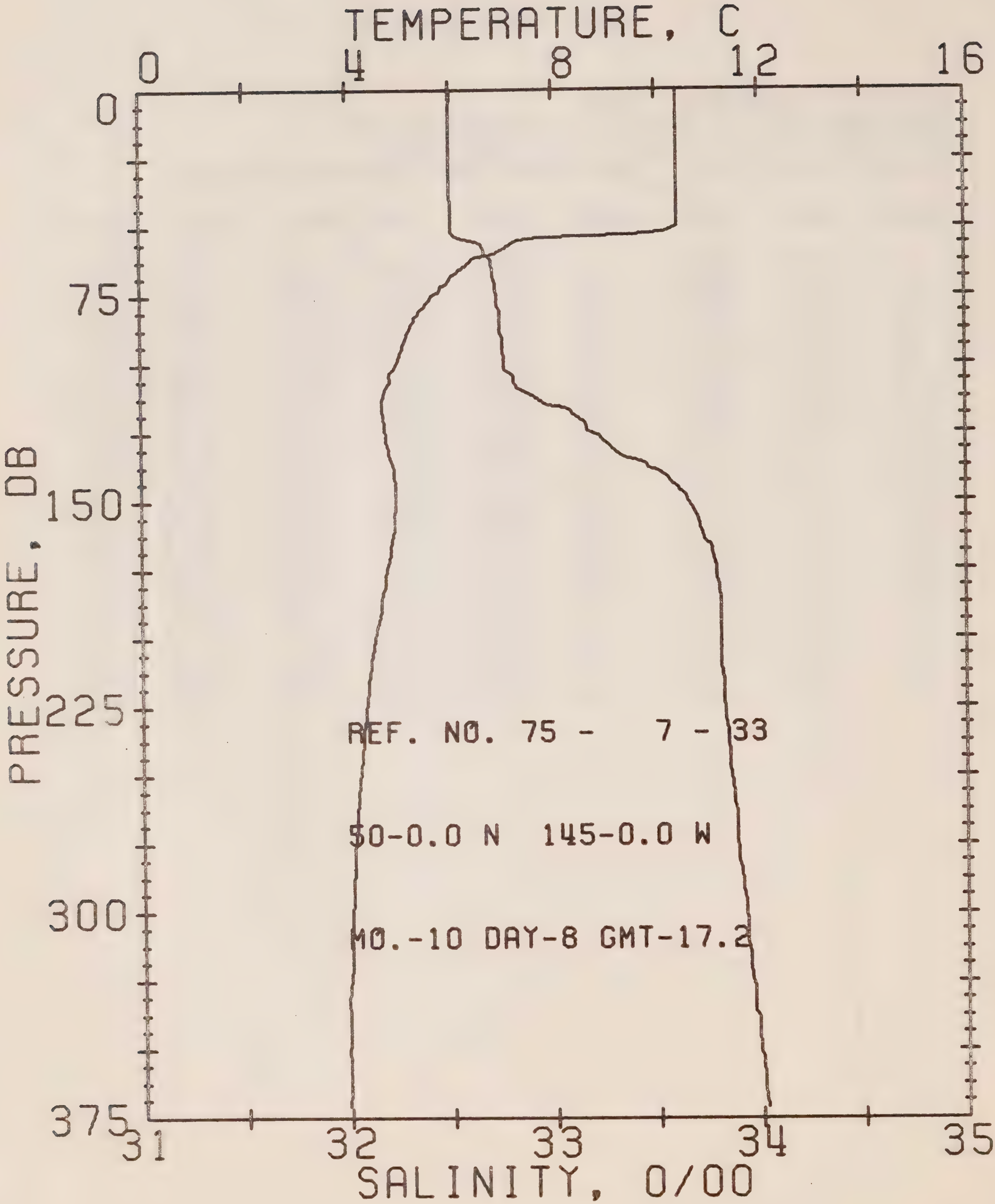
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 30 DATE 6/10/75
POSITION 50- 0.0N. 145- 0.0W GMT 19.1
RESULTS OF STP CAST 160 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.11	32.54	0	25.04	293.0	0.0	0.0	1488.
10	10.10	32.54	10	25.04	293.3	0.29	0.01	1488.
20	10.10	32.54	20	25.04	293.5	0.59	0.06	1488.
30	10.10	32.54	30	25.04	293.7	0.88	0.13	1488.
50	10.11	32.54	50	25.04	294.1	1.47	0.37	1488.
75	5.60	32.77	75	25.87	215.4	2.07	0.75	1472.
100	5.13	32.78	99	25.93	209.6	2.60	1.23	1470.
125	4.91	33.16	124	26.25	179.0	3.10	1.79	1470.
150	4.89	33.62	149	26.62	144.6	3.49	2.34	1471.
175	4.77	33.79	174	26.77	130.8	3.83	2.90	1471.
200	4.60	33.81	199	26.80	127.7	4.15	3.52	1471.
225	4.40	33.83	223	26.84	124.2	4.46	4.20	1471.
250	4.27	33.86	248	26.88	120.8	4.77	4.94	1471.
300	4.13	33.90	298	26.93	116.5	5.36	6.60	1471.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 7 - 32
50-0.0 N 145-0.0 W
MO.-10 DAY-7 GMT-19.9
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 32 DATE 7/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 19.9
RESULTS OF STP CAST 251 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT, EN	SOUND
0	10.51	32.51	0	24.95	301.7	0.0	0.0	1489.
10	10.51	32.51	10	24.95	302.1	0.30	0.02	1489.
20	10.51	32.51	20	24.95	302.3	0.60	0.06	1489.
30	10.51	32.51	30	24.95	302.5	0.91	0.14	1490.
50	10.50	32.51	50	24.95	302.4	1.51	0.39	1490.
75	5.67	32.76	75	25.85	216.9	2.11	0.76	1472.
100	5.01	32.78	99	25.94	208.3	2.64	1.24	1470.
125	4.88	33.29	124	26.36	168.9	3.12	1.79	1470.
150	4.90	33.66	149	26.65	141.7	3.51	2.33	1471.
175	4.79	33.78	174	26.76	131.7	3.85	2.89	1471.
200	4.55	33.81	199	26.80	127.4	4.17	3.50	1471.
225	4.40	33.83	223	26.84	124.2	4.49	4.19	1471.
250	4.25	33.85	248	26.87	121.4	4.79	4.93	1470.
300	4.08	33.91	298	26.94	115.6	5.39	6.59	1471.
400	3.91	34.03	397	27.05	105.7	6.49	10.52	1472.
500	3.69	34.13	496	27.15	96.9	7.50	15.15	1473.
600	3.50	34.20	595	27.23	90.1	8.43	20.37	1473.
800	3.18	34.31	793	27.34	79.9	10.12	32.37	1476.
1000	2.88	34.39	990	27.43	72.1	11.64	46.25	1478.
1200	2.63	34.44	1188	27.50	66.6	13.02	61.80	1480.


TEMPERATURE, C
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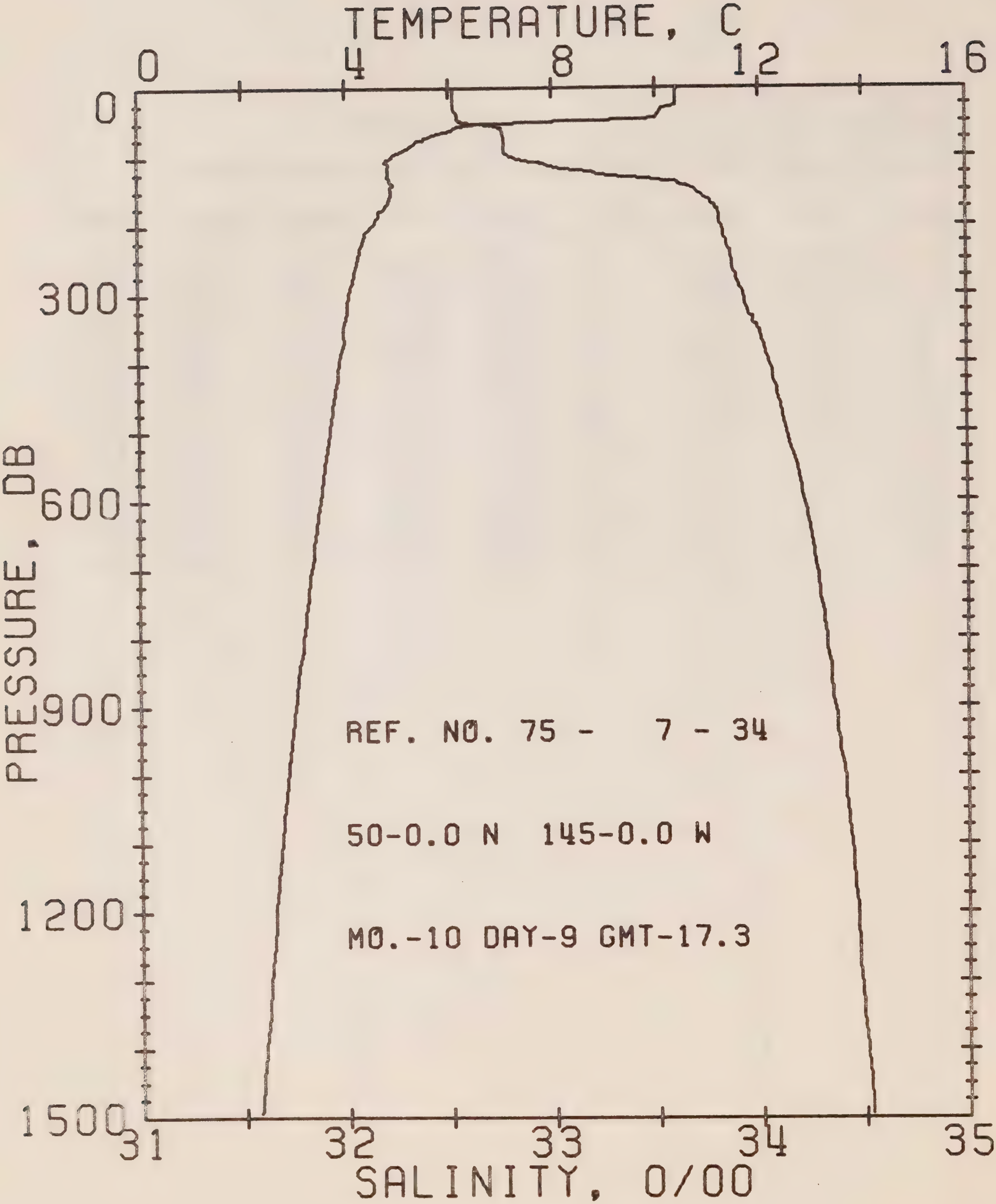
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 33
50-0.0 N 145-0.0 W
MO.-10 DAY-8 GMT-17.2
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 33 DATE 8/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.2
RESULTS OF STP CAST 168 POINTS TAKEN FROM ANALOG TRACE

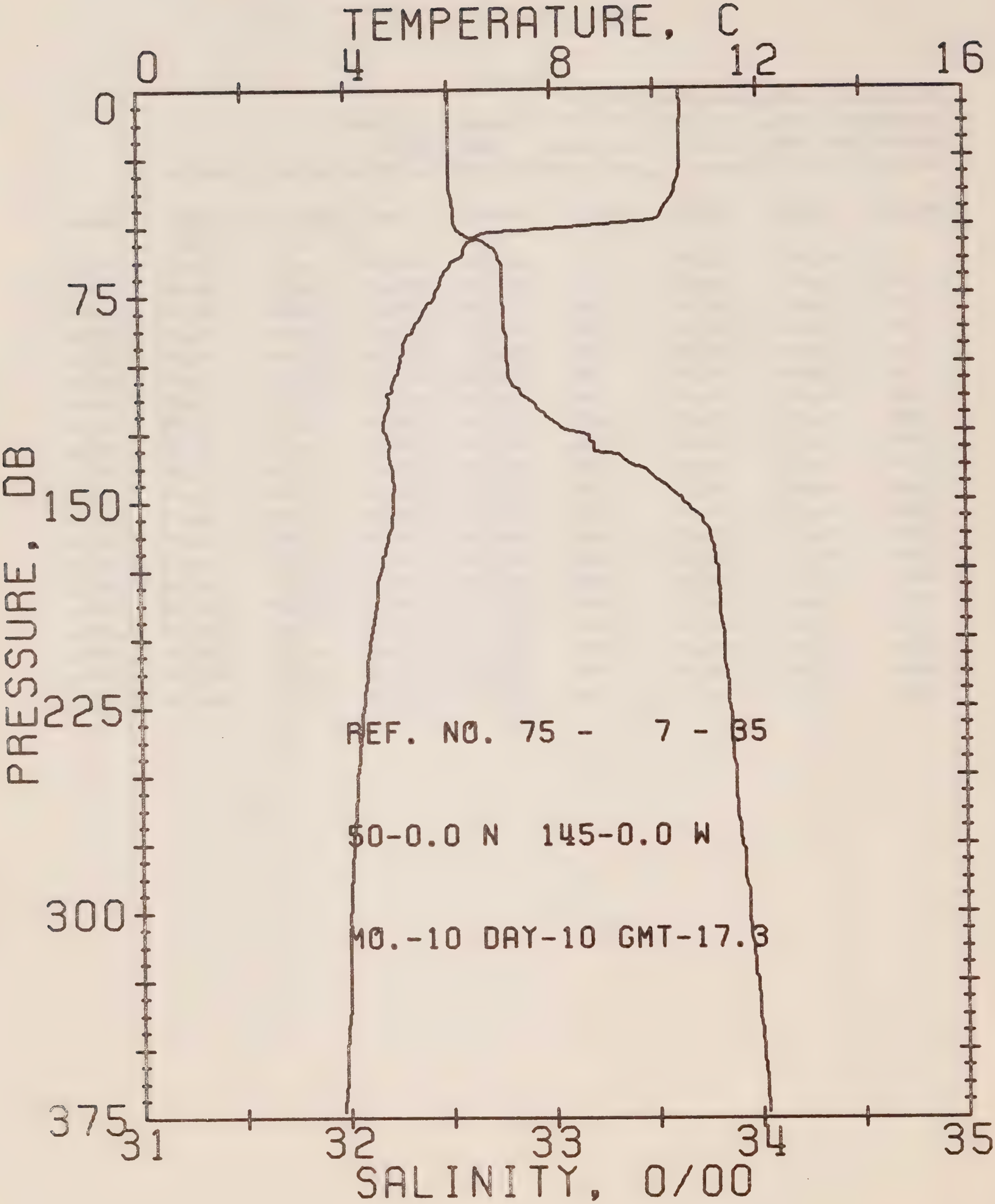
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT, EN	SOUND
0	10.44	32.51	0	24.96	300.5	0.0	0.0	1489.
10	10.44	32.50	10	24.95	301.7	0.30	0.02	1489.
20	10.43	32.50	20	24.95	301.8	0.60	0.06	1489.
30	10.44	32.50	30	24.95	302.0	0.90	0.14	1489.
50	10.42	32.51	50	24.96	301.4	1.51	0.38	1490.
75	5.63	32.73	75	25.83	218.7	2.11	0.76	1472.
100	4.94	32.76	99	25.93	209.1	2.64	1.24	1469.
125	4.74	33.18	124	26.29	175.7	3.13	1.79	1470.
150	4.93	33.65	149	26.64	142.7	3.52	2.34	1471.
175	4.75	33.79	174	26.77	130.6	3.86	2.90	1471.
200	4.52	33.81	199	26.81	126.8	4.18	3.52	1471.
225	4.33	33.83	223	26.84	123.8	4.49	4.20	1470.
250	4.20	33.85	248	26.88	120.5	4.80	4.93	1470.
300	4.03	33.92	298	26.95	114.3	5.39	6.58	1470.



TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 7 - 34
50-0.0 N 145-0.0 W
MO.-10 DAY-9 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

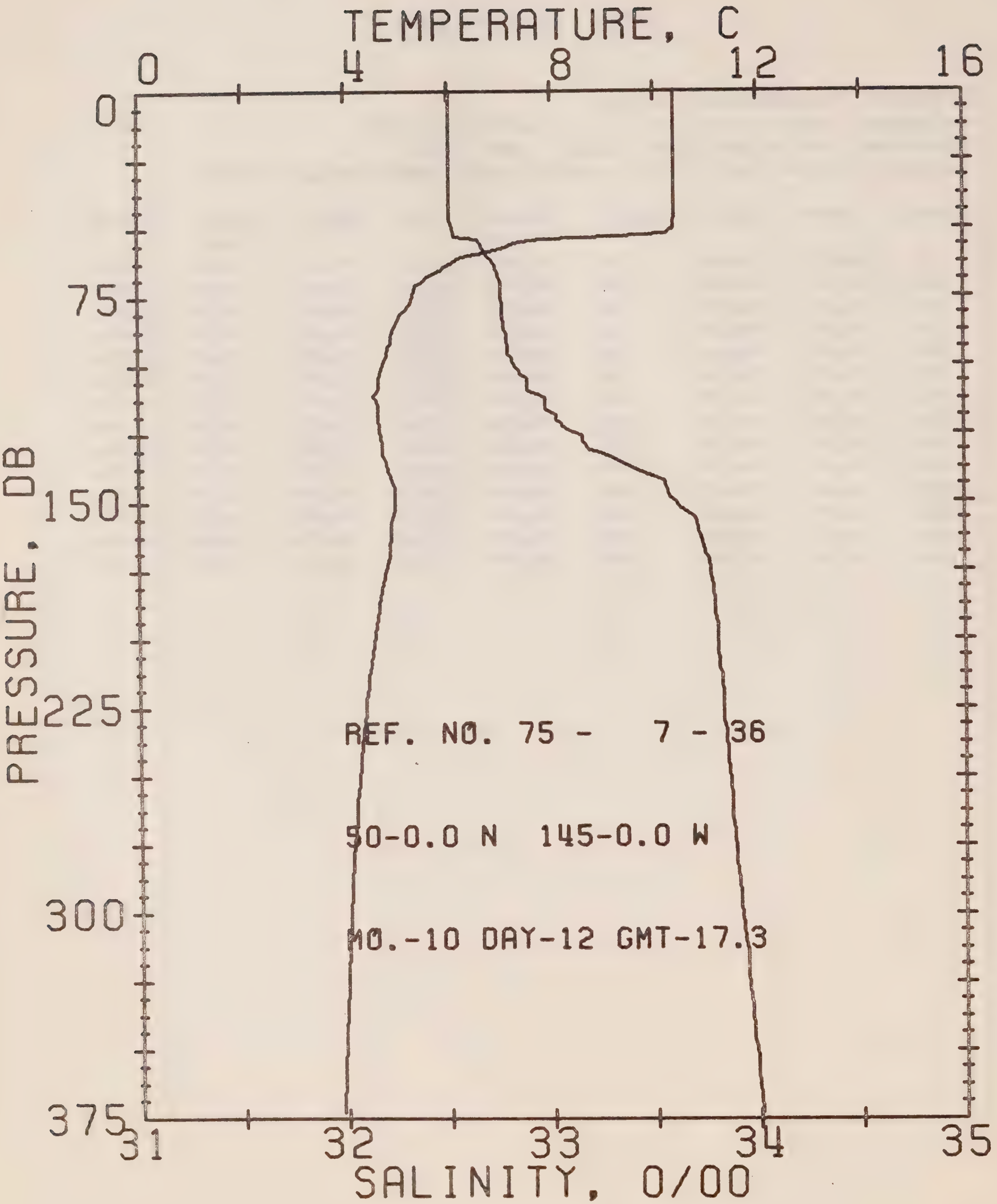
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 34 DATE 9/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 231 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.42	32.52	0	24.97	299.5	0.0	0.0	1489.
10	10.41	32.52	10	24.97	299.7	0.30	0.02	1489.
20	10.41	32.52	20	24.97	299.9	0.60	0.06	1489.
30	10.11	32.52	30	25.02	295.3	0.90	0.14	1488.
50	7.93	32.56	50	25.39	260.2	1.48	0.37	1480.
75	5.50	32.77	75	25.88	214.2	2.04	0.73	1471.
100	4.91	32.79	99	25.96	206.1	2.56	1.20	1469.
125	4.84	33.22	124	26.31	173.7	3.04	1.74	1470.
150	4.88	33.69	149	26.68	139.1	3.42	2.27	1471.
175	4.73	33.79	174	26.77	130.3	3.76	2.83	1471.
200	4.52	33.81	199	26.81	126.5	4.08	3.44	1471.
225	4.31	33.84	223	26.86	122.6	4.39	4.11	1470.
250	4.22	33.86	248	26.89	119.9	4.69	4.85	1470.
300	4.06	33.92	298	26.95	114.6	5.28	6.49	1471.
400	3.87	34.04	397	27.06	104.2	6.37	10.38	1472.
500	3.67	34.13	496	27.15	96.5	7.37	14.98	1472.
600	3.49	34.21	595	27.23	89.2	8.30	20.16	1473.
800	3.15	34.32	793	27.35	78.9	9.97	32.06	1475.
1000	2.84	34.40	990	27.45	70.5	11.47	45.79	1477.
1200	2.59	34.46	1188	27.52	64.9	12.83	60.98	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 35
50-0.0 N 145-0.0 W
MO.-10 DAY-10 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 35 DATE 10/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 183 POINTS TAKEN FROM ANALOG TRACE

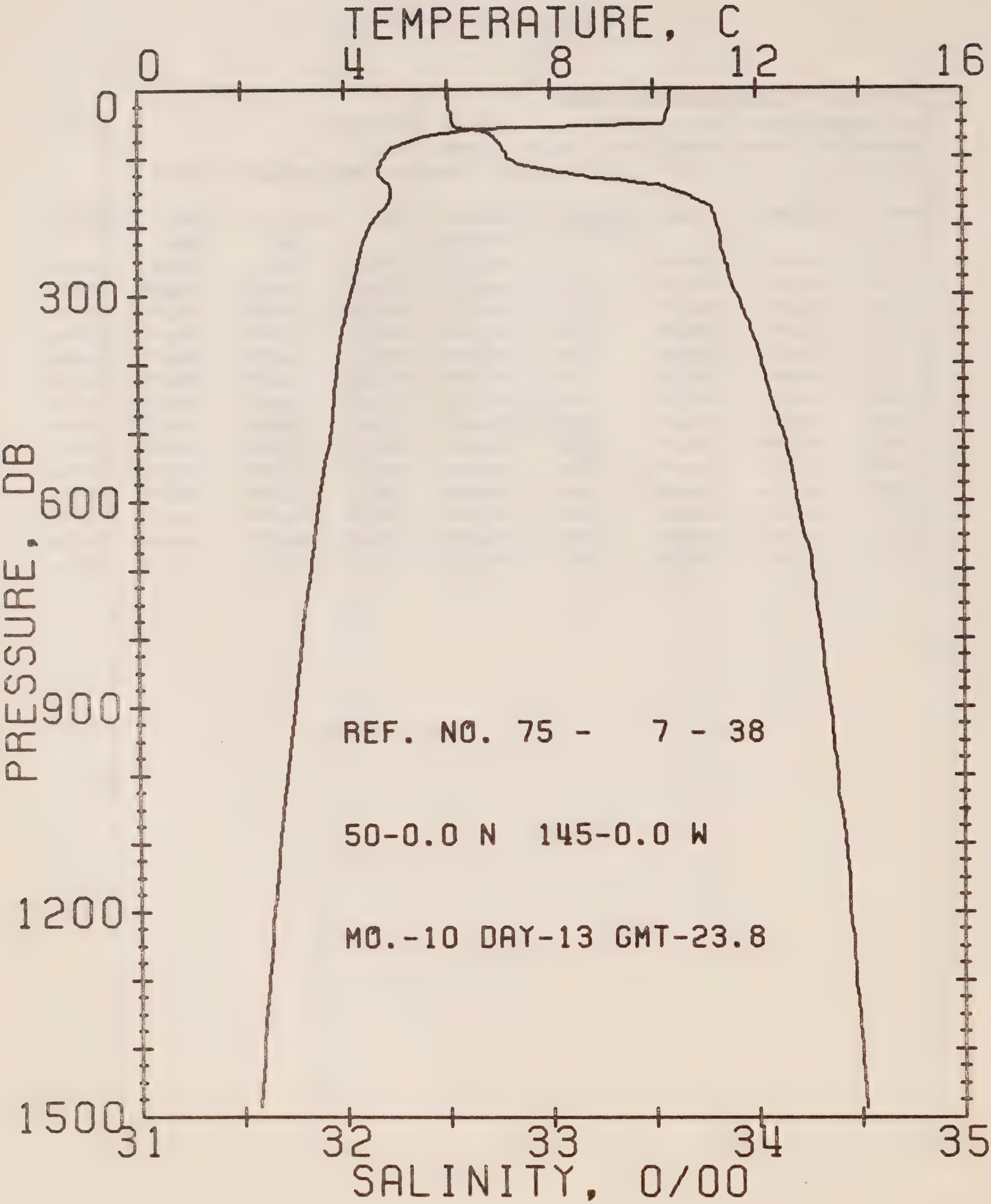
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.51	32.51	0	24.95	301.7	0.0	0.0	1489.
10	10.52	32.51	10	24.95	302.3	0.30	0.02	1489.
20	10.51	32.51	20	24.95	302.3	0.60	0.06	1489.
30	10.49	32.51	30	24.95	302.1	0.91	0.14	1489.
50	8.61	32.53	50	25.27	271.7	1.50	0.38	1483.
75	5.73	32.76	75	25.84	217.6	2.07	0.74	1472.
100	5.05	32.78	99	25.94	208.4	2.60	1.21	1470.
125	4.77	33.13	124	26.24	179.7	3.10	1.78	1470.
150	4.91	33.63	149	26.62	144.0	3.50	2.34	1471.
175	4.64	33.80	174	26.79	128.6	3.83	2.90	1471.
200	4.44	33.83	199	26.83	124.5	4.15	3.50	1470.
225	4.30	33.85	223	26.87	121.4	4.46	4.17	1470.
250	4.17	33.88	248	26.90	118.3	4.76	4.90	1470.
300	4.01	33.94	298	26.97	112.6	5.34	6.51	1470.



TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 36
50-0.0 N 145-0.0 W
MO.-10 DAY-12 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 36 DATE 12/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 151 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.40	32.51	0	24.97	299.9	0.0	0.0	1489.
10	10.40	32.51	10	24.97	300.3	0.30	0.02	1489.
20	10.40	32.51	20	24.97	300.5	0.60	0.06	1489.
30	10.40	32.51	30	24.97	300.7	0.90	0.14	1489.
50	10.38	32.52	50	24.98	300.0	1.50	0.38	1489.
75	5.29	32.75	75	25.89	213.5	2.09	0.75	1470.
100	4.70	32.82	99	26.01	202.0	2.61	1.22	1468.
125	4.68	33.13	124	26.25	178.8	3.09	1.77	1469.
150	4.95	33.60	149	26.60	146.7	3.50	2.33	1471.
175	4.77	33.77	174	26.75	132.5	3.84	2.90	1471.
200	4.54	33.80	199	26.80	127.7	4.16	3.52	1471.
225	4.36	33.83	223	26.84	123.8	4.48	4.20	1470.
250	4.24	33.86	248	26.88	120.7	4.78	4.94	1470.
300	4.05	33.91	298	26.94	115.0	5.37	6.59	1471.


TEMPERATURE, C
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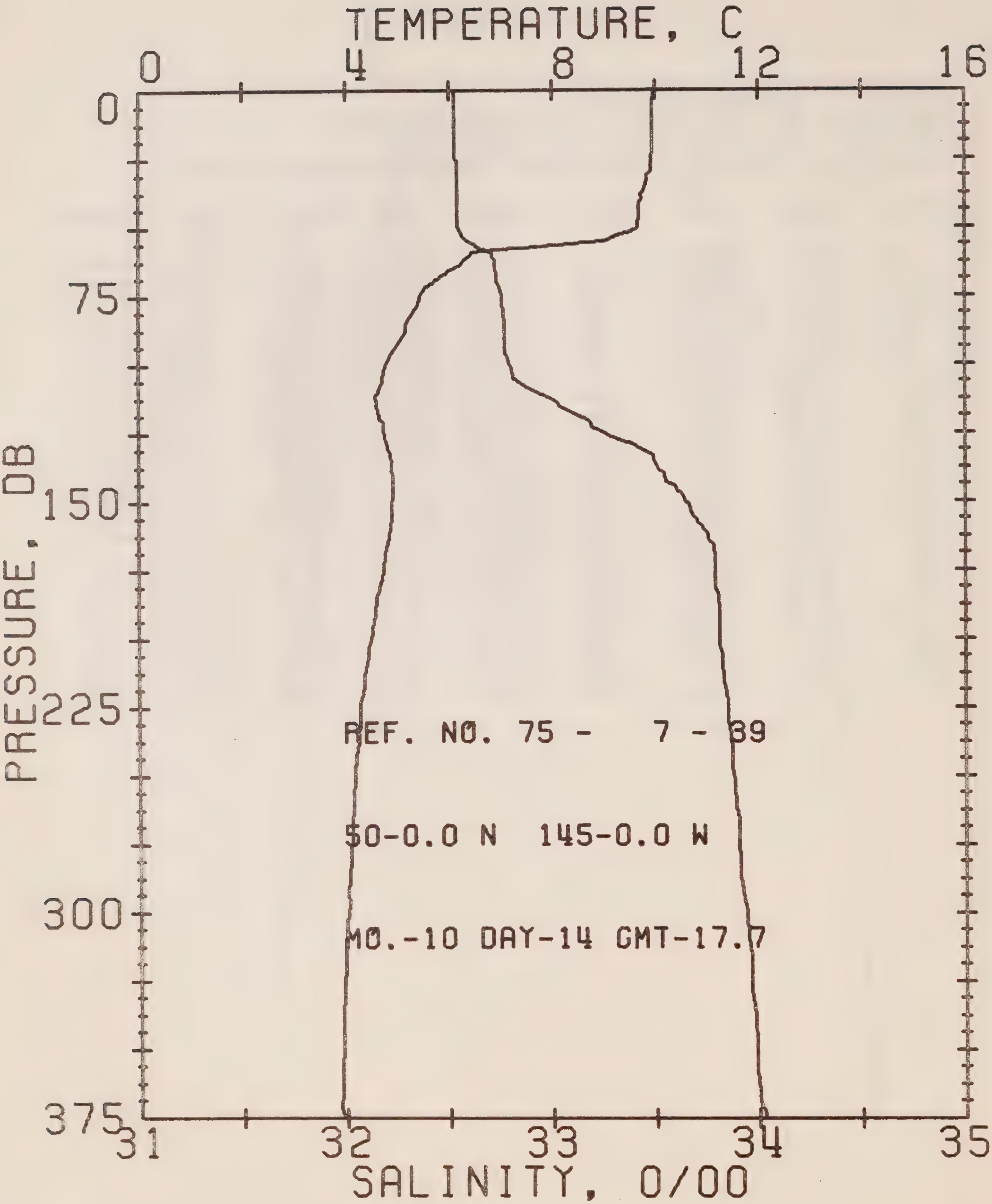
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 7 - 38
50-0.0 N 145-0.0 W
MO.-10 DAY-13 GMT-23.8
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 38 DATE 13/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 23.8
RESULTS OF STP CAST 223 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.34	32.51	0	24.98	298.9	0.0	0.0	1488.
10	10.33	32.51	10	24.98	299.2	0.30	0.02	1489.
20	10.32	32.51	20	24.98	299.2	0.60	0.06	1489.
30	10.30	32.51	30	24.98	299.0	0.90	0.14	1489.
50	10.21	32.52	50	25.01	297.0	1.49	0.38	1489.
75	5.29	32.74	75	25.88	214.2	2.09	0.76	1470.
100	4.78	32.79	99	25.97	205.1	2.62	1.22	1469.
125	4.68	33.11	124	26.24	180.1	3.10	1.78	1469.
150	4.91	33.62	149	26.62	144.8	3.50	2.34	1471.
175	4.76	33.79	174	26.77	130.9	3.85	2.91	1471.
200	4.48	33.81	199	26.81	126.4	4.17	3.52	1471.
225	4.34	33.83	223	26.85	123.5	4.48	4.20	1470.
250	4.26	33.85	248	26.87	121.5	4.79	4.94	1470.
300	4.10	33.90	298	26.93	116.3	5.38	6.61	1471.
400	3.85	34.02	397	27.05	105.8	6.49	10.54	1471.
500	3.73	34.12	496	27.14	97.4	7.51	15.20	1473.
600	3.48	34.19	595	27.22	90.4	8.44	20.45	1473.
800	3.15	34.31	793	27.35	79.6	10.13	32.47	1475.
1000	2.86	34.39	990	27.43	72.0	11.65	46.36	1478.
1200	2.59	34.44	1188	27.50	56.2	13.02	61.76	1480.


TEMPERATURE, C
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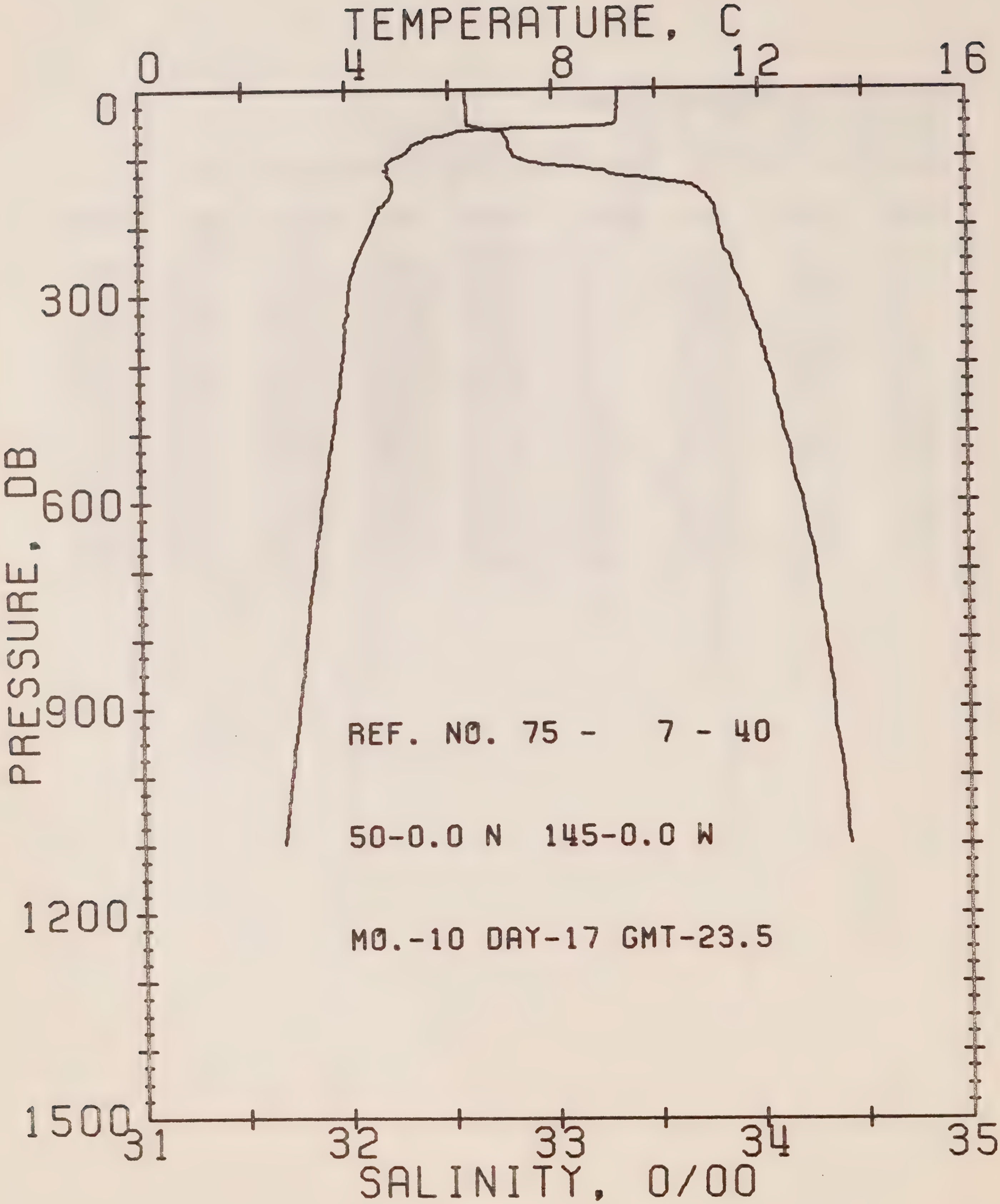
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 39
50-0.0 N 145-0.0 W
MO.-10 DAY-14 GMT-17.7
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 39 DATE 14/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.7
RESULTS OF STP CAST 177 POINTS TAKEN FROM ANALOG TRACE

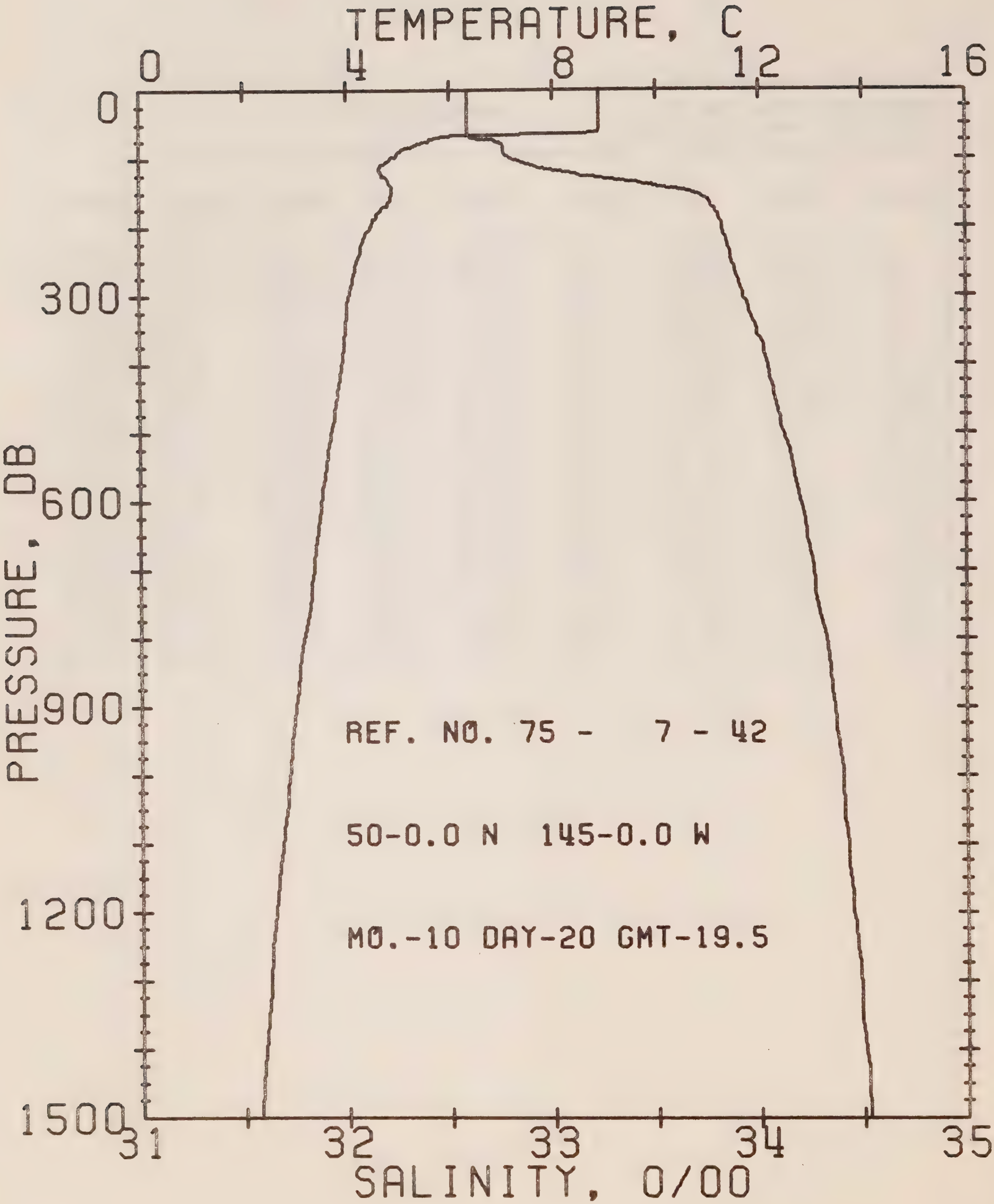
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.97	32.53	0	25.05	291.5	0.0	0.0	1487.
10	9.95	32.53	10	25.06	291.7	0.29	0.01	1487.
20	9.94	32.53	20	25.06	291.7	0.58	0.06	1487.
30	9.90	32.54	30	25.07	290.5	0.87	0.13	1487.
50	9.65	32.54	50	25.11	286.9	1.45	0.37	1487.
75	5.42	32.75	75	25.87	214.9	2.05	0.74	1471.
100	4.76	32.79	99	25.98	204.9	2.57	1.21	1469.
125	4.74	33.25	124	26.34	170.4	3.05	1.75	1470.
150	4.89	33.64	149	26.64	143.1	3.43	2.29	1471.
175	4.71	33.79	174	26.77	130.2	3.77	2.85	1471.
200	4.47	33.81	199	26.82	126.3	4.09	3.46	1470.
225	4.26	33.85	223	26.87	121.2	4.40	4.13	1470.
250	4.16	33.88	248	26.90	118.5	4.70	4.86	1470.
300	4.02	33.94	298	26.97	112.6	5.28	6.48	1470.



TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 7 - 40
50-0.0 N 145-0.0 W
MO.-10 DAY-17 GMT-23.5
31
32
33
34
35
SALINITY, 0/00

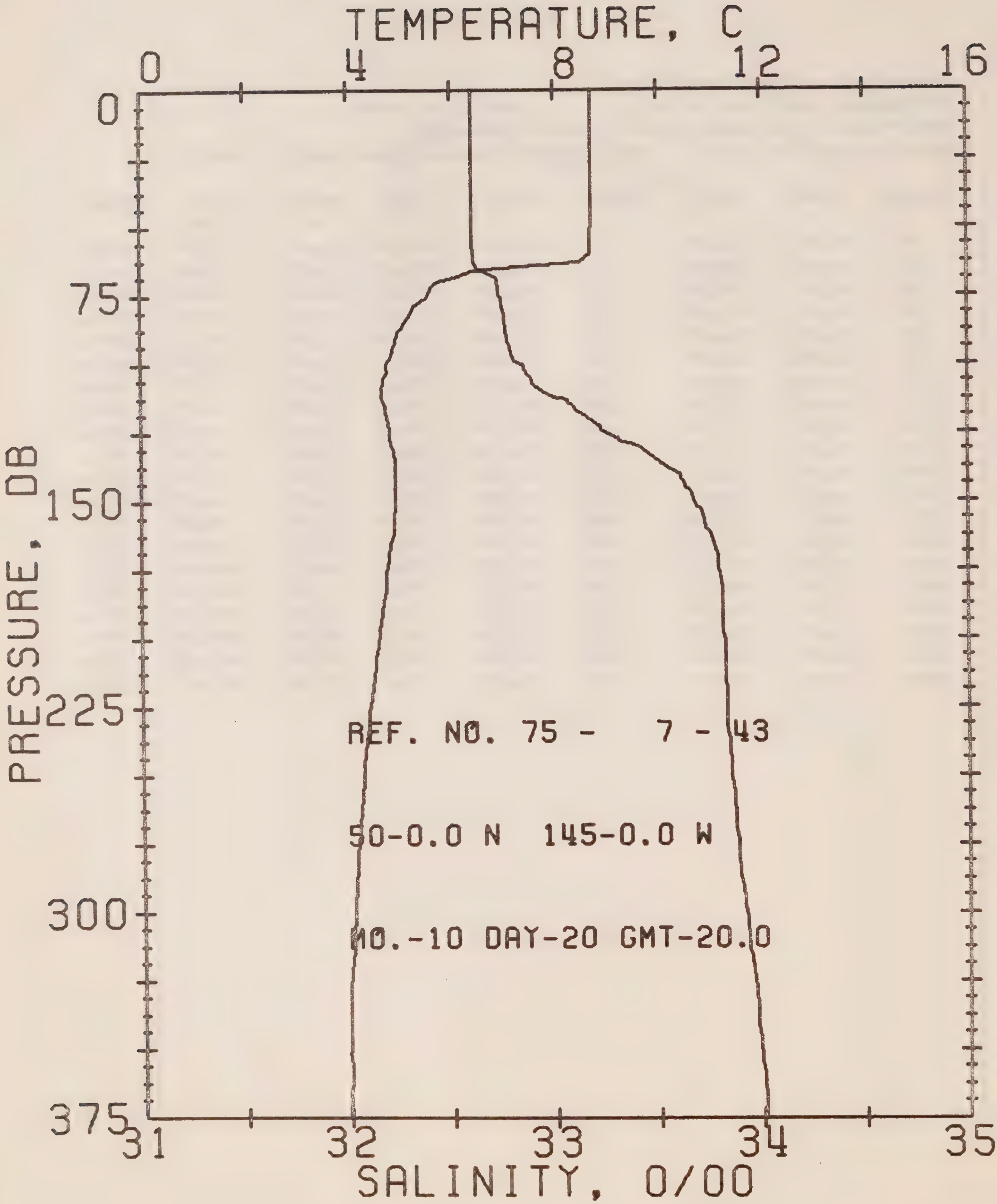
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 40 DATE 17/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 23.5
RESULTS OF STP CAST 211 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.27	32.58	0	25.21	277.0	0.0	0.0	1485.
10	9.27	32.58	10	25.21	277.4	0.28	0.01	1485.
20	9.27	32.58	20	25.21	277.6	0.55	0.06	1485.
30	9.26	32.59	30	25.22	276.9	0.83	0.13	1485.
50	9.22	32.59	50	25.22	276.6	1.39	0.35	1485.
75	5.46	32.79	75	25.90	212.3	1.97	0.72	1471.
100	4.94	32.84	99	26.00	203.1	2.50	1.19	1470.
125	4.81	33.32	124	26.39	165.9	2.96	1.72	1470.
150	4.89	33.72	149	26.70	137.2	3.33	2.23	1471.
175	4.64	33.79	174	26.78	129.3	3.66	2.78	1471.
200	4.47	33.80	199	26.81	126.8	3.98	3.40	1470.
225	4.32	33.82	223	26.84	124.2	4.29	4.07	1470.
250	4.18	33.86	248	26.89	119.9	4.60	4.81	1470.
300	4.02	33.93	298	26.96	113.7	5.18	6.45	1470.
400	3.89	34.03	397	27.06	105.0	6.27	10.33	1472.
500	3.72	34.12	496	27.14	98.1	7.29	14.98	1473.
600	3.49	34.20	595	27.23	90.0	8.23	20.25	1473.
800	3.18	34.31	793	27.34	79.9	9.92	32.27	1476.
1000	2.86	34.39	990	27.44	71.9	11.44	46.20	1478.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NO. 75 - 7 - 42
50-0.0 N 145-0.0 W
MO.-10 DAY-20 GMT-19.5
31
32
33
34
35
SALINITY, 0/00

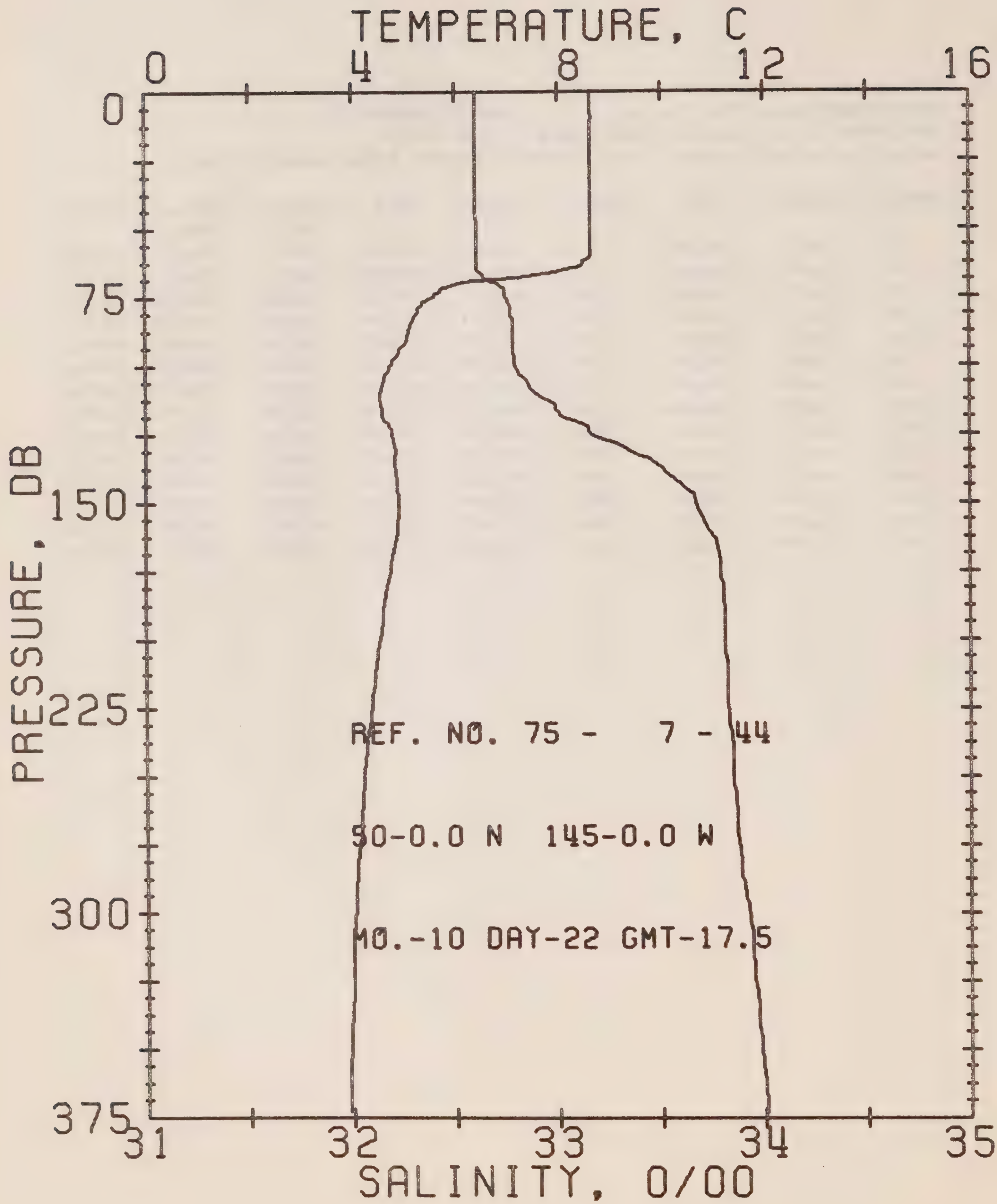
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 42   DATE 20/10/75
POSITION 50- 0.0N, 145- 0.0W   GMT 19.5
RESULTS OF STP CAST   232 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.91	32.58	0	25.26	271.7	0.0	0.0	1483.
10	8.91	32.59	10	25.27	271.3	0.27	0.01	1483.
20	8.91	32.59	20	25.27	271.5	0.54	0.06	1484.
30	8.91	32.59	30	25.27	271.7	0.81	0.12	1484.
50	8.91	32.59	50	25.27	272.0	1.36	0.35	1484.
75	5.56	32.72	75	25.83	218.7	1.99	0.75	1471.
100	4.85	32.80	99	25.97	205.1	2.52	1.22	1469.
125	4.69	33.14	124	26.26	178.2	3.01	1.77	1469.
150	4.88	33.68	149	26.67	139.9	3.40	2.32	1471.
175	4.66	33.79	174	26.78	129.6	3.74	2.88	1471.
200	4.45	33.82	199	26.83	125.3	4.05	3.49	1470.
225	4.29	33.84	223	26.86	122.0	4.36	4.15	1470.
250	4.19	33.86	248	26.89	119.9	4.67	4.89	1470.
300	4.04	33.92	298	26.95	114.4	5.25	6.52	1470.
400	3.90	34.04	397	27.06	105.0	6.34	10.41	1472.
500	3.70	34.11	496	27.14	97.9	7.36	15.06	1473.
600	3.50	34.20	595	27.22	90.5	8.30	20.31	1473.
800	3.16	34.32	793	27.35	79.1	9.99	32.40	1475.
1000	2.86	34.40	990	27.44	71.2	11.49	46.12	1478.
1200	2.59	34.45	1188	27.51	65.6	12.86	61.45	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 43
50-0.0 N 145-0.0 W
MO.-10 DAY-20 GMT-20.0
31
32
33
34
35
SALINITY, 0/00

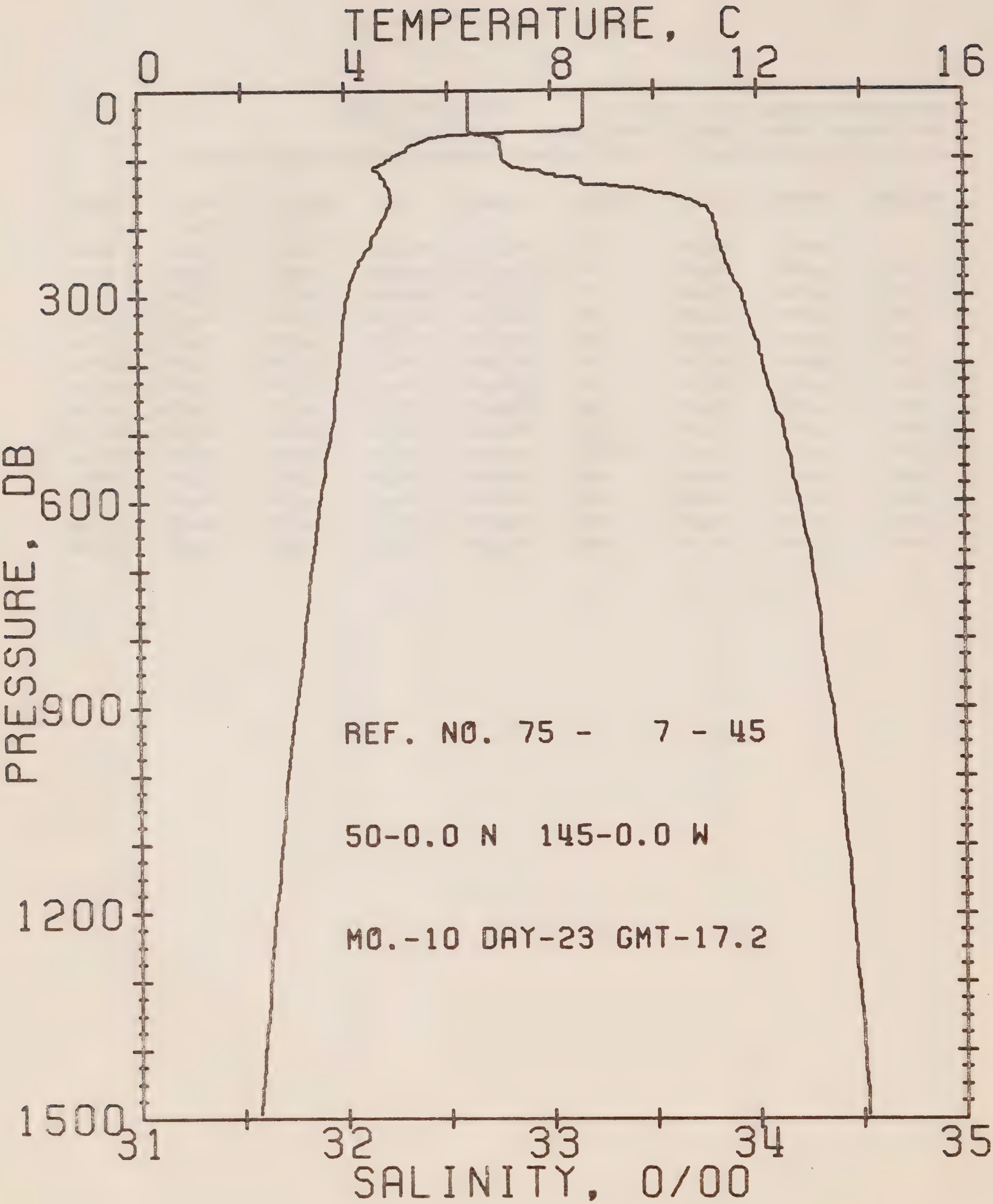
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 43 DATE 20/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 20.0
RESULTS OF STP CAST 172 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.71	32.60	0	25.31	267.2	0.0	0.0	1483.
10	8.71	32.60	10	25.31	267.6	0.27	0.01	1483.
20	8.71	32.60	20	25.31	267.8	0.54	0.05	1483.
30	8.71	32.60	30	25.31	267.9	0.80	0.12	1483.
50	8.71	32.60	50	25.31	268.3	1.34	0.34	1483.
75	5.51	32.73	75	25.84	217.3	1.96	0.73	1471.
100	4.72	32.84	99	26.02	200.7	2.49	1.20	1469.
125	4.80	33.24	124	26.33	171.8	2.95	1.74	1470.
150	4.90	33.67	149	26.66	140.9	3.34	2.27	1471.
175	4.73	33.79	174	26.77	130.3	3.67	2.83	1471.
200	4.57	33.82	199	26.81	126.8	3.99	3.44	1471.
225	4.39	33.83	223	26.84	124.1	4.31	4.12	1471.
250	4.27	33.85	248	26.87	121.7	4.61	4.86	1471.
300	4.07	33.91	298	26.94	115.1	5.21	6.52	1471.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NØ. 75 - 7 - 44
50-0.0 N 145-0.0 W
MØ.-10 DAY-22 GMT-17.5
31
32
33
34
35
SALINITY, 0/00

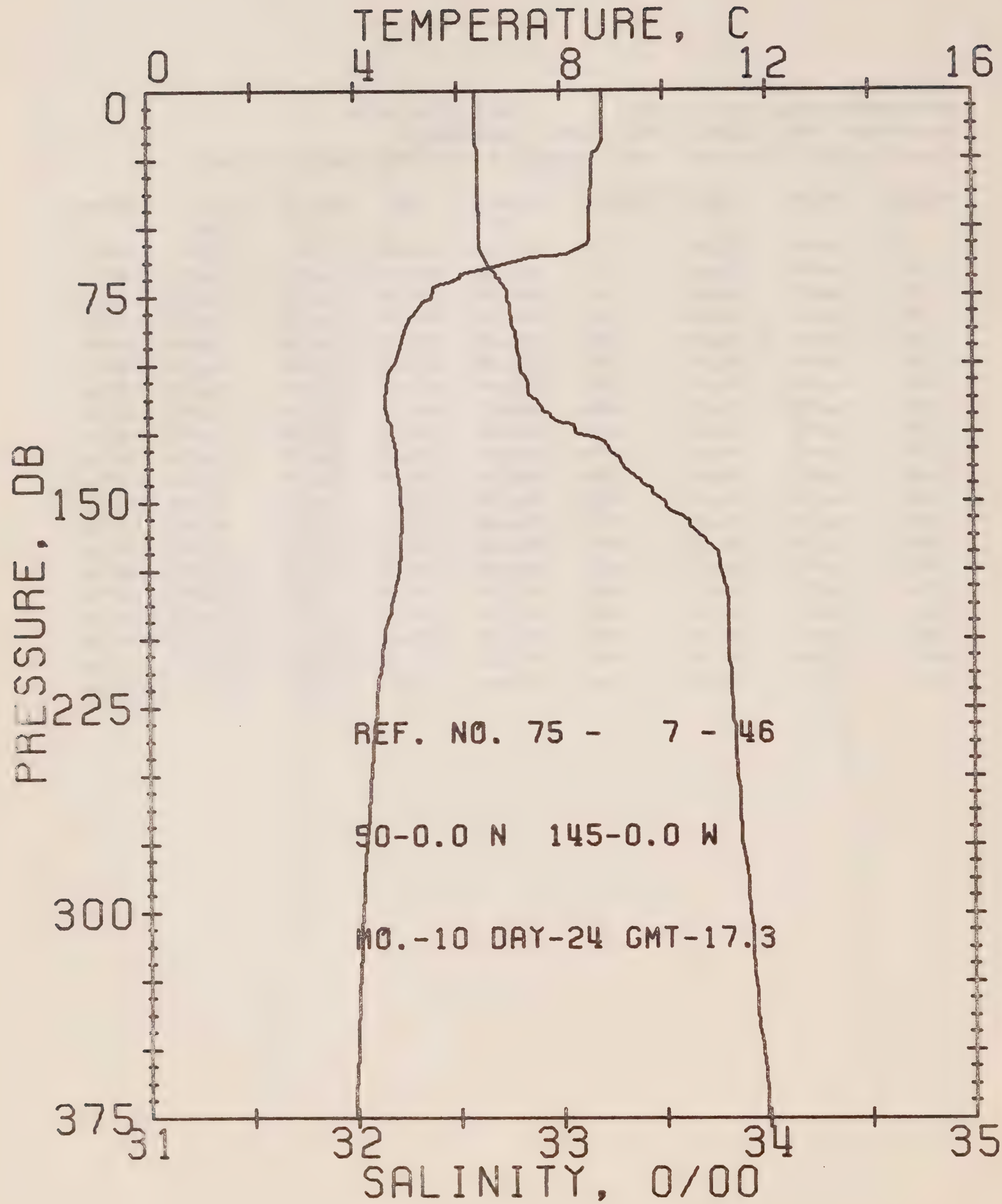
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 44 DATE 22/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.5
RESULTS OF STP CAST 164 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT, EN	SOUND
0	8.65	32.60	0	25.32	266.4	0.0	0.0	1482.
10	8.65	32.60	10	25.32	266.8	0.27	0.01	1482.
20	8.64	32.60	20	25.32	266.8	0.53	0.05	1483.
30	8.65	32.60	30	25.32	267.0	0.80	0.12	1483.
50	8.65	32.61	50	25.33	266.6	1.33	0.34	1483.
75	5.56	32.74	75	25.85	217.2	1.97	0.74	1472.
100	4.71	32.79	99	25.98	204.4	2.49	1.21	1468.
125	4.78	33.16	124	26.27	177.6	2.97	1.75	1470.
150	4.90	33.67	149	26.66	140.9	3.36	2.29	1471.
175	4.74	33.79	174	26.77	130.4	3.69	2.85	1471.
200	4.53	33.81	199	26.81	126.9	4.01	3.46	1471.
225	4.36	33.82	223	26.84	124.3	4.33	4.14	1470.
250	4.22	33.85	248	26.87	121.1	4.63	4.88	1470.
300	4.03	33.92	298	26.95	113.9	5.22	6.53	1470.


TEMPERATURE, C
0
4
8
12
16
0
300
600
900
1200
1500
PRESSURE, DB
REF. NØ. 75 - 7 - 45
50-0.0 N 145-0.0 W
MØ.-10 DAY-23 GMT-17.2
31
32
33
34
35
SALINITY, 0/00

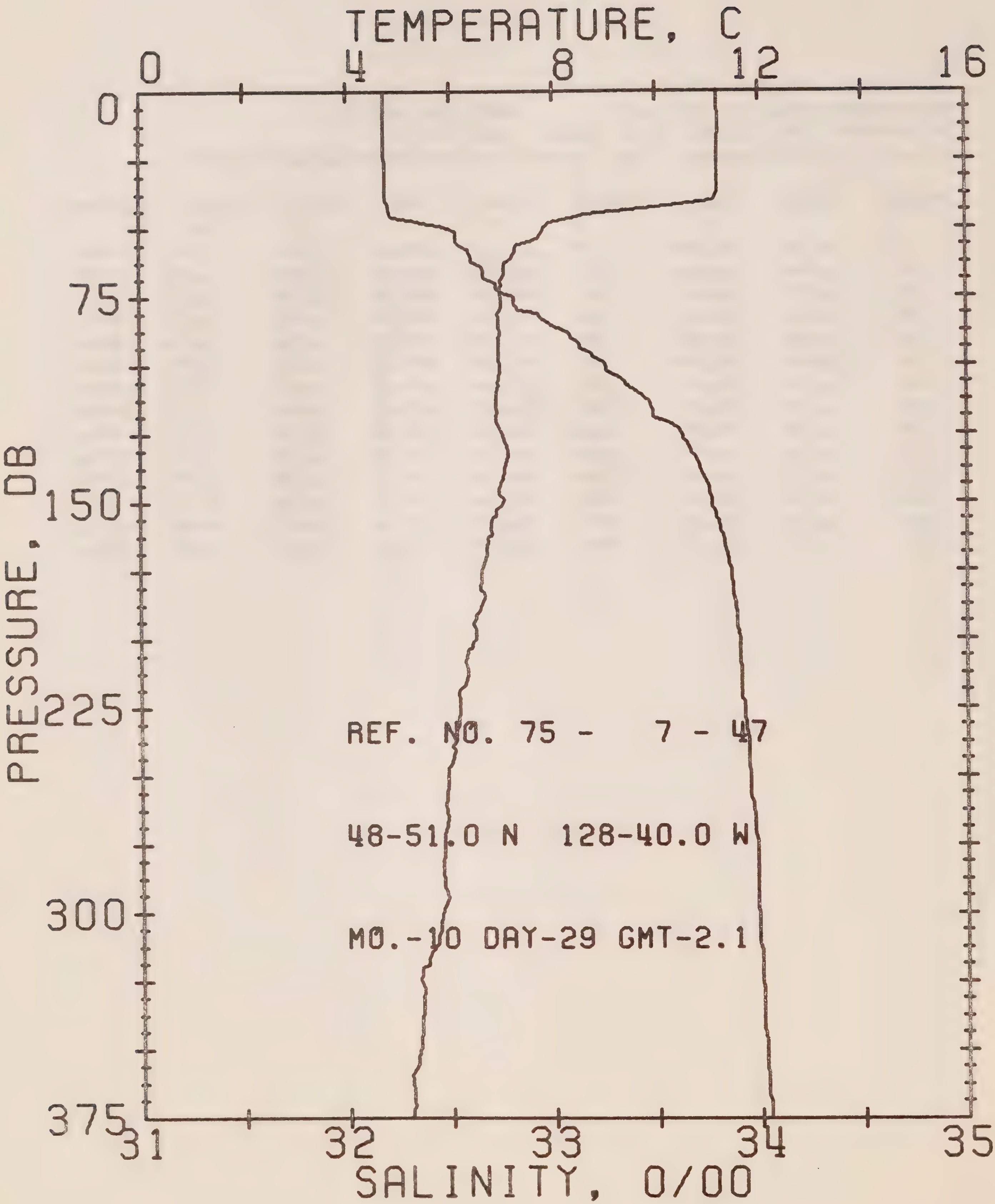
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 45 DATE 23/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.2
RESULTS OF STP CAST 247 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.67	32.60	0	25.32	266.7	0.0	0.0	1482.
10	8.63	32.60	10	25.32	266.4	0.27	0.01	1482.
20	8.63	32.60	20	25.32	266.6	0.53	0.05	1483.
30	8.64	32.60	30	25.32	266.9	0.80	0.12	1483.
50	8.64	32.60	50	25.32	267.2	1.33	0.34	1483.
75	5.42	32.75	75	25.87	214.9	1.94	0.72	1471.
100	4.87	32.76	99	25.94	208.3	2.47	1.19	1469.
125	4.69	33.02	124	26.17	187.1	2.96	1.76	1469.
150	4.90	33.52	149	26.54	152.1	3.39	2.36	1471.
175	4.81	33.76	174	26.74	133.5	3.74	2.94	1471.
200	4.65	33.80	199	26.79	129.0	4.07	3.56	1471.
225	4.52	33.82	223	26.82	126.3	4.39	4.25	1471.
250	4.28	33.84	248	26.86	122.2	4.70	5.00	1471.
300	4.04	33.93	298	26.96	113.7	5.29	6.65	1470.
400	3.89	34.02	397	27.05	105.9	6.38	10.56	1472.
500	3.71	34.13	496	27.15	96.8	7.40	15.22	1473.
600	3.49	34.20	595	27.23	90.1	8.34	20.46	1473.
800	3.19	34.30	793	27.34	80.6	10.03	32.51	1476.
1000	2.85	34.40	990	27.44	71.1	11.55	46.37	1478.
1200	2.60	34.45	1188	27.51	65.5	12.92	61.70	1480.


TEMPERATURE, C
0
4
8
12
16
0
75
150
225
300
375
PRESSURE, DB
REF. NO. 75 - 7 - 46
50-0.0 N 145-0.0 W
MO.-10 DAY-24 GMT-17.3
31
32
33
34
35
SALINITY, 0/00

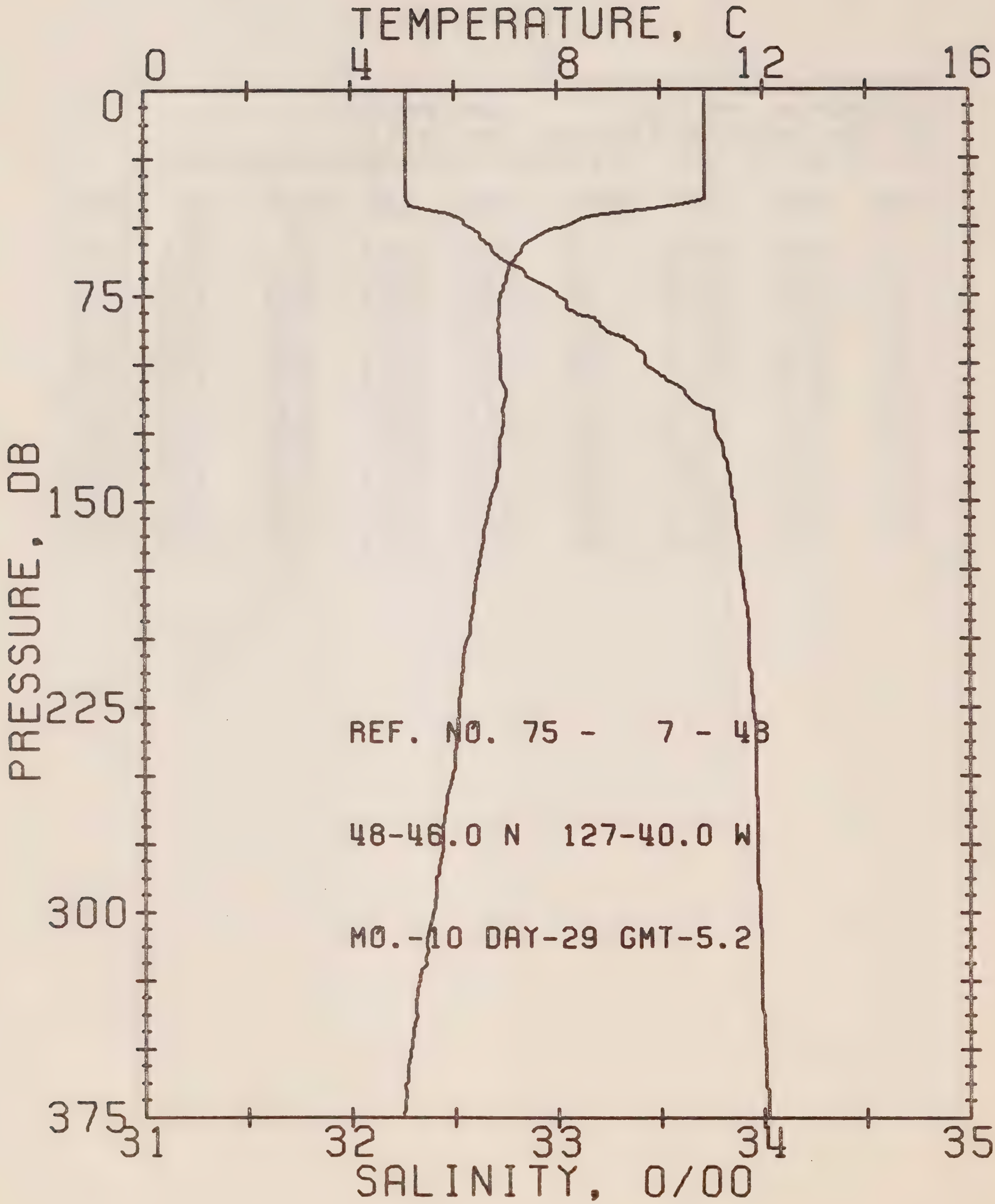
OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 46 DATE 24/10/75
POSITION 50- 0.0N, 145- 0.0W GMT 17.3
RESULTS OF STP CAST 177 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.84	32.59	0	25.28	269.8	0.0	0.0	1483.
10	8.84	32.59	10	25.28	270.2	0.27	0.01	1483.
20	8.78	32.59	20	25.29	269.6	0.54	0.06	1483.
30	8.60	32.60	30	25.33	266.4	0.81	0.12	1483.
50	8.56	32.61	50	25.34	265.3	1.34	0.34	1483.
75	5.48	32.74	75	25.86	216.2	1.95	0.72	1471.
100	4.76	32.80	99	25.98	204.2	2.47	1.19	1469.
125	4.72	33.07	124	26.20	183.7	2.96	1.75	1469.
150	4.89	33.50	149	26.52	153.6	3.38	2.33	1471.
175	4.84	33.77	174	26.75	132.8	3.73	2.92	1472.
200	4.55	33.81	199	26.81	127.1	4.05	3.53	1471.
225	4.39	33.83	223	26.84	124.2	4.37	4.21	1471.
250	4.29	33.85	248	26.87	121.8	4.67	4.96	1471.
300	4.10	33.91	298	26.93	115.8	5.27	6.62	1471.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
75
150
225
300
375
REF. NO. 75 - 7 - 47
48-51.0 N 128-40.0 W
MO.-10 DAY-29 GMT-2.1
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 47 DATE 29/10/75
POSITION 48-51.0N. 128-40.0W GMT 2.1
RESULTS OF STP CAST 225 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.20	32.18	0	24.57	337.6	0.0	0.0	1491.
10	11.23	32.18	10	24.57	338.4	0.34	0.02	1491.
20	11.21	32.18	20	24.57	338.4	0.68	0.07	1491.
30	11.19	32.19	30	24.58	337.5	1.01	0.16	1492.
50	7.81	32.49	50	25.36	263.7	1.65	0.41	1480.
75	6.98	32.81	75	25.72	229.2	2.26	0.80	1477.
100	6.95	33.24	99	26.07	196.8	2.80	1.27	1478.
125	7.00	33.62	124	26.36	169.8	3.25	1.80	1479.
150	7.00	33.77	149	26.47	159.1	3.66	2.37	1480.
175	6.59	33.86	174	26.60	147.3	4.05	3.00	1479.
200	6.48	33.90	199	26.65	143.2	4.41	3.70	1479.
225	6.17	33.92	223	26.70	138.1	4.76	4.46	1478.
250	5.91	33.95	248	26.76	133.0	5.10	5.28	1477.
300	5.79	33.99	298	26.80	129.4	5.75	7.11	1478.


TEMPERATURE, C
0
4
8
12
16
PRESSURE, DB
0
75
150
225
300
375
REF. NO. 75 - 7 - 48
48-46.0 N 127-40.0 W
MO.-10 DAY-29 GMT-5.2
31
32
33
34
35
SALINITY, 0/00

OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 75- 7- 48 DATE 29/10/75
POSITION 48-46.0N, 127-40.0W GMT 5.2
RESULTS OF STP CAST 201 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.89	32.27	0	24.70	325.7	0.0	0.0	1490.
10	10.89	32.27	10	24.70	326.1	0.33	0.02	1490.
20	10.89	32.27	20	24.70	326.3	0.65	0.07	1490.
30	10.89	32.27	30	24.70	326.5	0.98	0.15	1491.
50	8.18	32.58	50	25.37	262.1	1.59	0.40	1481.
75	6.90	33.00	75	25.88	213.9	2.18	0.77	1477.
100	6.90	33.43	99	26.22	182.3	2.67	1.21	1478.
125	6.92	33.77	124	26.49	157.5	3.09	1.68	1479.
150	6.69	33.86	149	26.59	148.2	3.47	2.22	1479.
175	6.45	33.89	174	26.64	143.3	3.84	2.82	1478.
200	6.24	33.93	199	26.70	137.9	4.19	3.49	1478.
225	6.08	33.95	223	26.74	134.7	4.53	4.23	1478.
250	5.95	33.96	248	26.76	132.7	4.86	5.04	1478.
300	5.55	33.98	298	26.83	127.0	5.51	6.85	1477.

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS

(P-75-7)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 7

DATE/TIME YR	MO	DY	GMT	SALINITY 0/00	TEMP C	LONGITUDE WEST
75	9	13	20	32.080	13.8	125-33
75	9	13	220	31.519	12.9	126- 0
75	9	13	505	31.988	13.1	126-40
75	9	13	835	32.176	14.2	127-40
75	9	13	1310	32.127	13.6	128-40
75	9	13	2000	32.027	13.9	130-40
75	9	14	230	32.215	14.1	132-40
75	9	14	500	32.284	13.7	133-40
75	9	14	740	32.323	13.4	134-40
75	9	14	1000	32.521	13.8	135-40
75	9	14	1240	32.347	13.3	136-40
75	9	14	1510	32.415	13.0	137-40
75	9	14	1740	32.465	12.9	138-40
75	9	14	2000	32.519	12.9	139-40
75	9	14	2235	32.476	12.3	140-40
75	9	15	110	32.476	12.3	141-40
75	9	15	625	32.485	12.3	142-40
75	9	15	1035	32.483	12.2	143-40
75	9	16	0	32.489	12.4	ON STATION
75	9	17	0	32.478	12.6	ON STATION
75	9	18	0	32.476	12.7	ON STATION
75	9	19	0	32.339	12.8	ON STATION
75	9	20	0	32.329	12.9	ON STATION
75	9	22	0	32.374	12.8	ON STATION
75	9	21	0	32.361	12.8	ON STATION
75	9	23	0	32.371	12.8	ON STATION
75	9	24	0	32.362	12.9	ON STATION
75	9	25	0	32.405	12.8	ON STATION
75	9	26	0		11.7	ON STATION
75	9	27	0	32.516	11.3	ON STATION
75	9	28	0	32.504	11.2	ON STATION
75	9	29	0	32.496	11.4	ON STATION
75	9	30	0	32.474	11.2	ON STATION
75	10	1	0	32.441	11.9	ON STATION
75	10	2	0	32.456	11.7	ON STATION
75	10	3	0	32.434	11.6	ON STATION
75	10	4	0	32.596	11.6	ON STATION
75	10	5	0	32.528	10.7	ON STATION
75	10	6	0	32.518	11.1	ON STATION
75	10	7	0	32.541	10.5	ON STATION
75	10	8	0	32.497	10.6	ON STATION
75	10	9	0	32.493	10.8	ON STATION
75	10	10	0	32.493	10.6	ON STATION
75	10	11	0	32.496	10.8	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 7

DATE/TIME YR	MO	DY	GMT	SALINITY 0/00	TEMP C	LONGITUDE WEST
75	10	12	0	32.497	10.4	ON STATION
75	10	13	0	32.478	10.9	ON STATION
75	10	14	0	32.496	10.6	ON STATION
75	10	15	0	32.554	10.2	ON STATION
75	10	16	0	32.533	10.3	ON STATION
75	10	17	0	32.576	9.7	ON STATION
75	10	18	0	32.564	9.4	ON STATION
75	10	19	0	32.572	9.2	ON STATION
75	10	20	0	32.622	9.0	ON STATION
75	10	21	0	32.575	9.2	ON STATION
75	10	22	0	32.604	8.9	ON STATION
75	10	23	0	32.638	8.8	ON STATION
75	10	24	0	32.593	9.3	ON STATION
75	10	25	0	32.601	8.9	ON STATION
75	10	26	0	32.582	8.9	ON STATION
75	10	27	0	32.558	8.9	ON STATION
75	10	27	1150	32.538	8.9	143-40
75	10	27	1500	32.548	9.1	142-40
75	10	27	1900	32.542	9.1	141-40
75	10	27	2130	32.500	9.0	140-40
75	10	28	0	32.495	9.4	139-40
75	10	28	220	32.409	9.8	138-40
75	10	28	450	32.410	9.5	137-40
75	10	28	700	32.358	10.3	136-40
75	10	28	920	32.523	10.7	135-40
75	10	28	1150	32.241	10.5	134-40
75	10	28	1400	32.174	10.6	133-40
75	10	28	1620	32.322	11.2	132-40
75	10	28	1850	32.246	11.4	131-40
75	10	28	2120	32.240	11.0	130-40
75	10	28	2330	32.228	11.4	129-40
75	10	29	200	32.161	11.1	128-40
75	10	29	505	32.249	10.8	127-40
75	10	29	815	32.152	11.1	126-40
75	10	29	1000	31.962	10.6	126- 0

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-75-8

(CODC REFERENCE NO. 15-75-008)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS

(P-75-8)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 8

DATE/TIME YR	MO	DY	GMT	SALINITY O/OO	TEMP C	LONGITUDE WEST
75	10	24	2330	31.287	11.6	125-33
75	10	25	100	31.538	11.2	126- 0
75	10	25	300	32.133	11.8	126-40
75	10	25	900	32.220	11.6	128-40
75	10	25	1300	32.232	11.8	129-40
75	10	25	1600	32.251	11.6	130-40
75	10	25	2143	32.244	11.8	131-40
75	10	26	400	32.271	11.5	132-40
75	10	26	900	32.288	10.9	133-40
75	10	26	1330	32.264	10.8	134-40
75	10	26	2000	32.514	10.7	135-40
75	10	26	2345	32.399	10.5	136-40
75	10	27	700	32.550	9.7	138-40
75	10	27	1030	32.552	9.3	139-40
75	10	27	1430	32.556	9.0	140-40
75	10	27	1725	32.563	8.8	141-40
75	10	27	2315	32.553	8.7	142-40
75	10	28	900	32.548	9.0	143-40
75	10	28	2000		8.4	ON STATION
75	10	29	2000		8.4	ON STATION
75	10	30	2000	32.560	8.5	ON STATION
75	10	31	2000	32.042	8.4	ON STATION
75	11	1	2000	32.602	8.3	ON STATION
75	11	2	2000	32.619	8.0	ON STATION
75	11	3	0		8.3	ON STATION
75	11	4	0		8.3	ON STATION
75	11	5	0		8.0	ON STATION
75	11	6	0		8.5	ON STATION
75	11	7	0		7.8	ON STATION
75	11	8	0		8.2	ON STATION
75	11	9	0		7.9	ON STATION
75	11	10	0		7.4	ON STATION
75	11	11	0		7.7	ON STATION
75	11	12	0		7.8	ON STATION
75	11	13	0		7.2	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 75- 8

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
75	11	15	0		7.2	ON STATION
75	11	16	0		6.9	ON STATION
75	11	17	0		7.2	ON STATION
75	11	18	0		7.5	ON STATION
75	11	19	0		7.2	ON STATION
75	11	20	0		7.2	ON STATION
75	11	21	0		7.1	ON STATION
75	11	22	0		6.9	ON STATION
75	11	23	0		7.3	ON STATION
75	11	24	0		7.1	ON STATION
75	11	25	0		6.9	ON STATION
75	11	26	0		7.2	ON STATION
75	11	27	0		7.0	ON STATION
75	11	28	0		7.1	ON STATION
75	11	29	0		7.2	ON STATION
75	11	30	0		7.3	ON STATION
75	12	1	0		7.2	ON STATION
75	12	2	0		7.1	ON STATION
75	12	3	0		7.2	ON STATION
75	12	4	0		6.7	ON STATION
75	12	5	0		6.7	ON STATION
75	12	6	0		6.8	ON STATION
75	12	7	0		7.0	ON STATION
75	12	8	0		6.7	ON STATION
75	12	8	1030	32.117	6.5	143-40
75	12	8	1905	32.583	6.5	141-40
75	12	8	2130	32.545	6.7	140-40
75	12	8	2345	32.532	7.0	139-40
75	12	9	705	32.447	7.4	136-40
75	12	9	945	32.331	7.5	135-40
75	12	9	1200	32.383	7.4	134-40
75	12	9	1600	32.401	7.5	132-40
75	12	9	1920	32.382	8.0	131-40
75	12	9	2145	32.381	8.2	130-40
75	12	9	2355	32.377	7.8	129-40
75	12	10	230	32.370	8.0	128-40
75	12	10	512	32.365	7.8	127-40
75	12	10	720	31.692	8.5	126-40
75	12	10	920	31.625	8.7	126- 0
75	12	10	1030	32.058	8.8	125-33